

AUGUST 1925 ~ No 235

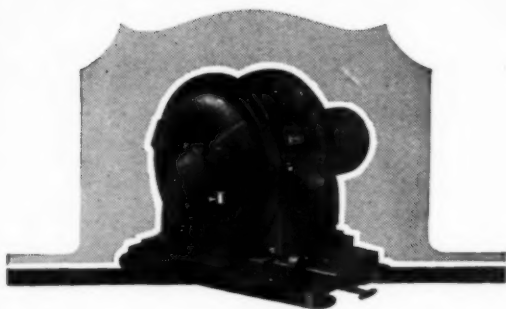
Monthly

A.P.C.

Distributed Free to Machine Tool  
Users Everywhere in the United States and to  
Dealers in American Machinery Abroad

Published by  
**A.H. HITCHCOCK**  
1220-1235 Caxton Building  
Chicago

FOR INDEXES SEE LAST PAGES



## Type **A.A.** RELIANCE Induction Motors

---

*represent—*

the Experience of users

*plus—*

our 20 yrs. of Experience  
in building good motors

**Reliance Electric & Engineering Co.**  
1050 Ivanhoe Road, Cleveland, Ohio

*Branches:*

BOSTON  
NEW YORK

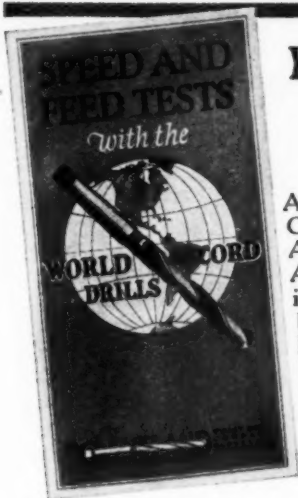
PHILADELPHIA  
PITTSBURGH

CHICAGO  
DETROIT

CINCINNATI  
BIRMINGHAM, ALA.

*We specialize in motors, sizes 1/2 to 200 h. p. constant and adjustable speed  
D. C.; squirrel cage and slip ring A. C.*

---



## You Ought to Have This Booklet!

At the Atlantic City Convention of the American Railway Association, Mechanical Division, June 11-18, 1924, Cle-Forge High Speed Drills established a new world's drilling record — beating their own record set up in 1923.

This booklet gives a complete summary of the Atlantic City tests and is a valuable guide to the shopman interested in finding out just what high speed drills can and will do.

*A copy will be sent you—gladly and without charge—for the asking*

The **CLEVELAND** **TWIST DRILL**  
**CLEVELAND** **COMPANY**  
**CLEVELAND**  
NEW YORK CHICAGO LONDON

TRADE MARK REG. U. S. PAT. OFF. AND FOREIGN COUNTRIES

*Manufacturers, also, of*

Carbon and High Speed Drills for every purpose; "Mezzo" Super-Carbon Drills; Hand, Jobbers' and Shell Reamers; "Peerless" High Speed Reamers; "Paradox" Adjustable Reamers; "Quick-Set" Reamers; Chucking Reamers for Turret Lathes; Counterbores; Countersinks; Sockets; End Mills; and the "Ezy-Out" Screw Extractors.

# CLE♦FORGE

TRADE MARK REG. U. S. PAT. OFF.

# LeBLOND Patent Belt Shifter



A necessary safety factor and a valuable production increasing feature. It is applicable to any cone pulley driven machine tool.

*Write for our descriptive booklet and prices*

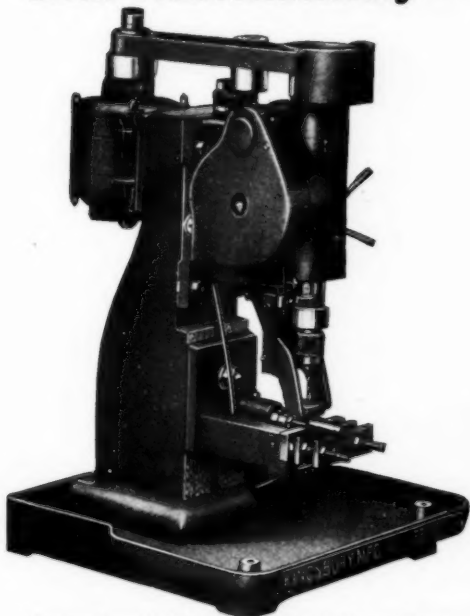
**THE R. K. LeBLOND MACHINE  
TOOL COMPANY**

CINCINNATI

OHIO



## Drill Automatically—



Kingsbury Vertical Drilling Machine with No. 82 Universal Fixture

- OPERATOR:**
1. Inserts blank, simultaneously engaging power feed.
  2. Picks up fresh blank.
- MACHINE:**
1. Automatically clamps work.
  2. Drills work under uniform pressure with friction control absolutely with as coarse a feed as the tool will stand.
  3. Unclamps and ejects work.
  4. Stops until operator inserts fresh piece.

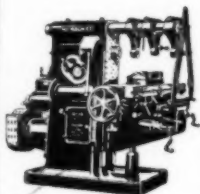
This is a machine for short run jobs where production counts

*Write for catalogue of production drillers*

**Kingsbury Manufacturing Co., - Keene, N. H.**

# WANTED —

## K & T Millers!



If you have in your shop a used MILWAUKEE Milling Machine that you wish to dispose of, or trade in toward a new machine, kindly notify us.

Please include size and type of machine, serial number (stamped on front of knee), location, condition, and price you will sell for.

Address: Rebuilding Department

MILWAUKEE MILLING MACHINES  
**KEARNEY & TRECKER**

CORPORATION

West Allis Station

Milwaukee, Wisconsin

## Cleveland Open Side Planers

Sizes—26" to 72"

Don't just buy a planer. Buy a *good investment*. A CLEVELAND Planer will bring you big dividends.

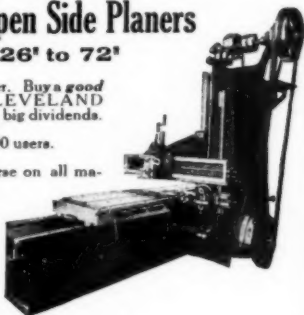
Ask some of our 1,000 users.

Power Rapid Traverse on all machines 42" and larger.

Aluminum Drive Pulleys.

Self-oiling bushings throughout the Drive.

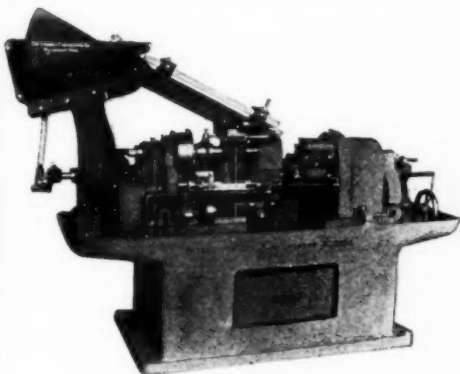
Ball Bearing Countershafts.



*Send for descriptive circular.*

**The Cleveland Planer Co.,** 3148 Superior Ave., N. E.,  
CLEVELAND, OHIO

*Established in 1900*

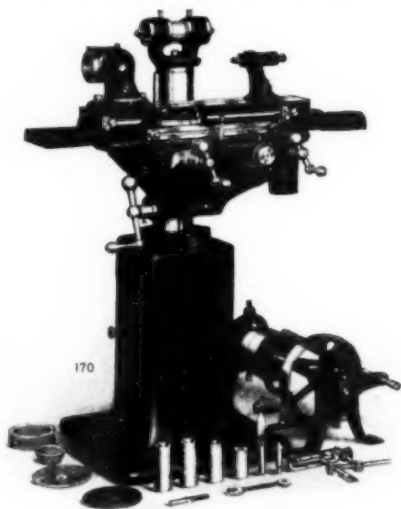


**USE  
ECONOMY COMBINED  
POINTING AND  
THREADING MACHINE  
TO REDUCE  
BOLT COSTS**

**The  
Economy Engineering Company  
WILLOUGHBY, OHIO**

# Cutter and Tool Grinders

For All Classes of Work



The Nos. 10, 11 and 12 give a range of sizes that will take care of any kind of cutter and tool work as well as light cylindrical grinding.

*Let us recommend the proper sizes for your work*

**LANDIS TOOL COMPANY**  
**Waynesboro, Pa.**

New York Office: 30 Church Street    Detroit Office: 5928 Second Blvd.  
Chicago Office: 618 W. Washington Blvd.

# Grand Rapids Universal Grinder

*MOTOR DRIVEN*

With All Overhead Works Eliminated

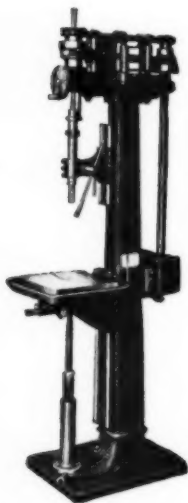


GRAND RAPIDS No. 3 & No. 4 Universal Grinders  
are furnished either hand feed or power feed,  
wet or dry, motor drive or belt drive.

CIRCULAR ON REQUEST

**Gallmeyer & Livingston Co.**  
342 Straight Avenue, S. W.  
GRAND RAPIDS, MICH.

FOOTBURT



## A Single Spindle Footburt Sipp Sensitive Drill

Made in three  
sizes of single  
and multiple  
spindle models

### More holes with this machine

Why? Because you can change speeds in two seconds or belts in ten seconds—because the automatic idlers keep the belt pulling to capacity at all times—because the full ball bearing equipment and accurate machining gives a smooth, fast cut.

*Write for No. 650 Folders*

**The Foote-Burt Company, Cleveland, O.**

FOOTBURT



HOW BIG ARE YOU ?

HOW BIG  
DO YOU WANT TO BE ?

HAVE YOU STOPPED GROWING ?

THE BIGGER  
YOU ARE

OR WANT  
TO BE

THE LESS  
CAN YOU AFFORD  
OUT OF DATE EQUIPMENT

**Avey**

DRILLING  
MACHINES  
ARE USED IN  
THE BIGGEST  
PLANTS IN  
THE COUNTRY;  
PLANTS THAT  
ARE STILL  
GROWING

WHY?



**STOP!**

JUST THINK A  
MOMENT -  
THE LARGEST  
PLANTS IN  
THE COUNTRY

**Avey**

MACHINES  
ARE THERE  
WHY?



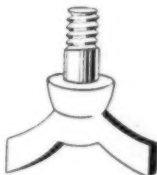
*Let us help you make profits*

THE AVEY  
DRILLING MACHINE CO.  
CINCINNATI



# Threading 1200 pieces per Hour

These brass wing  
screws shown are  
being threaded on  
our



## Standard High Speed Tapping Machine

*Let us show you what can  
be done on your work*

**Leland-Gifford Co.**

Worcester, Mass.,

U. S. A.



*Branch Offices:*

BOSTON  
NEW YORK

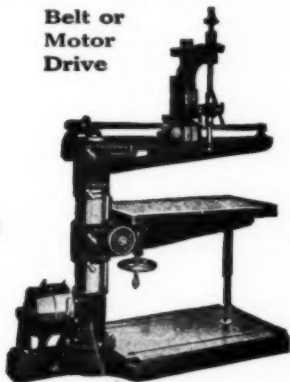
CLEVELAND  
DETROIT

CHICAGO  
ROCHESTER



# THE TAYLOR & FENN Sensitive High-Speed Radial

**Belt or  
Motor  
Drive**



## ***This Great Manufacturers' Drill—***

combines the speed of the sensitive with the flexibility of the radial, for practically all drilling requirements within its range. Drill the big pieces on the base and the small pieces on the table.

Tapping heads, power feed heads or hand lever feed heads may be used singly or in combination.

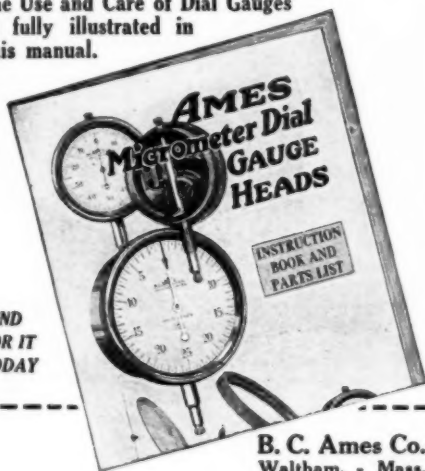
The drive is positive, through gears and silent chain. The spindle has three speeds and is bored for No. 2 Morse taper.

*A thorough investigation of this machine will repay you  
We shall be glad to furnish complete data upon request*

**The Taylor & Fenn Co.**  
**Hartford, Conn., U. S. A.**

# Send for This FREE Text Book

the Use and Care of Dial Gauges  
is fully illustrated in  
this manual.



SEND  
FOR IT  
TODAY

B. C. Ames Co.  
Waltham, - Mass.

Please send me a free copy of the  
DIAL GAUGE INSTRUCTION BOOK

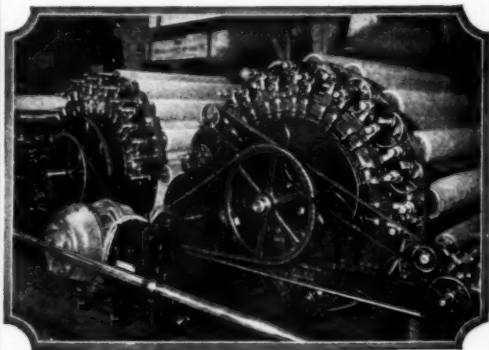
NAME.....

ADDRESS.....

H.....

# **"WHITNEY"**

## **Silent Chain Drives**



### ***Adaptability***

The tremendous advantage of INDIVIDUAL MOTOR DRIVES on many kinds of Machinery has been made possible by the adaptability of "Whitney Silent Chain Drives."

*Let us fit the drive to the job*

### **THE WHITNEY MFG. CO., - HARTFORD, CONN.**

**NEW YORK**  
L. C. Biglow & Co., Inc.  
250 W. 54th St.

**PITTSBURGH**  
Pittsburgh Gear & Mch. Co.  
27th & Smallman Sts.

**CLEVELAND**  
Smith Power Transmission Co.  
1218 Ontario St.

**BOSTON**  
George C. Steil  
727-A Boylston St.

**SYRACUSE, N. Y.**  
George McPherson  
201 Norwood Ave.

**CHICAGO**  
E. H. Huntington  
215 Machinery Hall

**PHILADELPHIA**  
R. J. Howison  
1505 Race St.

**DETROIT**  
A. G. Brice  
2-240 Gen. Motors Bldg.

**SAN FRANCISCO**  
A. H. Coates Co.  
615 Howard St.

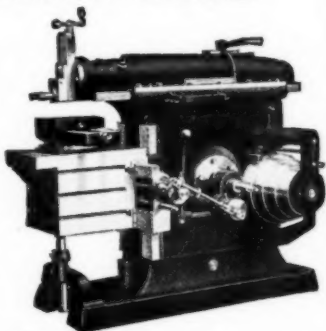
**SEATTLE, A. H. Coates Co., 1115 East Union St.**

# SHAPERS

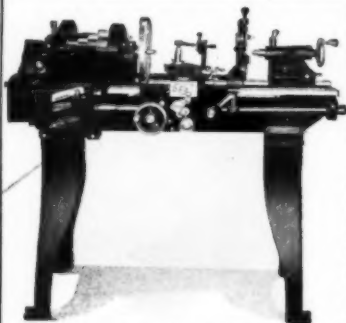
12", 14", 16"  
Plain Crank.  
16", 20", 25"  
B. G. Crank,  
either Cone  
Driven or  
through Speed  
Box.

Belt Shifter  
Regular Equip-  
ment All Cone  
Driven Shapers.

32" Back Gear-  
ed Crank, Sin-  
gle Pulley  
Drive.



**The Smith & Mills Co., Cincinnati, O., U.S.A.**



**Every  
Gear  
Made  
of Steel**

—with the excep-  
tion of one cast iron  
back gear, in this  
11" x 4' Quick  
Change Gear Sid-  
ney Lathe. All  
Sidney Lathes are  
machined, assem-  
bled and tested  
with tool room ac-  
curacy.

*Write for catalog and get the details.  
Address Dept. 1808*

**The Sidney Machine Tool Co.  
Sidney, Ohio**





## There Are Many Advantages In a Small Machine For Small Work

7 in.  
Shaper  
Stroke

3½ in.  
Slotter  
Stroke



Costs  
Less  
Easier  
to  
Handle  
And it's  
Accurate

### The Rhodes Shaper and Slotter

Is especially designed for small tool and die work, and is unexcelled in accuracy and output on all shaping and slotting within its capacity.

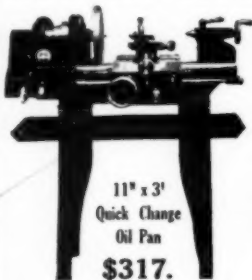
Designed like a large high-grade tool—only the parts are made smaller. The result is that the first cost is much lower and it is more readily manipulated on the work it will handle.

*Ask your dealer or write for  
CATALOG H22*

**The Rhodes Mfg. Company**  
984 Park Road,                      Hartford, Conn.

SHAPERS—RHODES—SLOTTERS

## Monarch Jr. Lathes



11" x 3'  
Quick Change  
Oil Pan

**\$317.**

are the smallest members of the Monarch lathe family. Yet they are the "biggest little lathes" built.

The Monarch line of lathes includes all sizes and types from the little 9-inch Junior lathe to the big, massive 30-in. lathe. In this line there is a lathe to fill your requirements at the price you want to pay.

*Send for Catalog*

**The Monarch Machine Tool Co.**

206 Oak Street, Sidney, Ohio



*Write for details  
on our new*

**Gold Seal Lathes**

**\$765**

15"x6'  
Geared  
Head  
Lathe,  
Single  
Friction  
Pulley  
Drive,  
without  
Motor.

**The Sebastian Lathe Company**  
1000 Culvert St., Cincinnati, O., U. S. A.

# For Driving Short Screws At Lowest Cost



The  
Reynolds  
No. 1  
Special

## The Only Automatic Magazine-Fed Machine

That drives short  
screws and those  
with short bodies  
and large heads

Just keep the hopper  
filled—no handling of  
screws beyond that  
—a boy or girl can  
operate it.

*For a dozen years* our Automatic MAGAZINE-FED Machines have been driving nearly every kind of screws for up-to-date concerns everywhere, at a saving of 65% to 85%.

*Our No. 1 Special*, shown in the picture, which has been in use in many plants for over three years, completes our line of MAGAZINE-FED Machines, by handling screws with short bodies and large heads. It magazines and drives screws from No. 4 to No. 10, up to  $\frac{1}{2}$ " long, to the center of a 14" circle.

*Send us samples of your assemblies containing screws and we will recommend the proper equipment to meet your requirements*

**The Reynolds Machine Company**  
Dept. H. H.,                      Massillon, Ohio

# NOTICE—

*To USERS Of*

## “Advance” Lathes

Formerly made at Milwaukee, Wis.

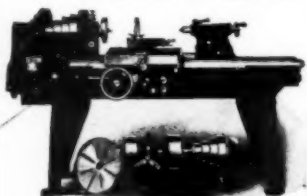
We have purchased the entire outfit for building these Lathes, and are prepared to give service on repair parts, etc.

**The Carroll & Jamieson Machine Tool Co.**  
Batavia, Ohio

## Just-Rite Lathes

Have patented invisible gap without extra cost

*Made in sizes from 10" to 20"*



JUST-RITE in  
price

JUST-RITE in  
accuracy

JUST-RITE for  
your work

*Easy payment  
plan if desired*

*JUST-RITE and let us show you a big saving*

**A. V. Carroll Machine Tool Co.,** Norwood, Cincinnati, O.





## When Westinghouse Buys Thirty-Four "Rarefieds" —

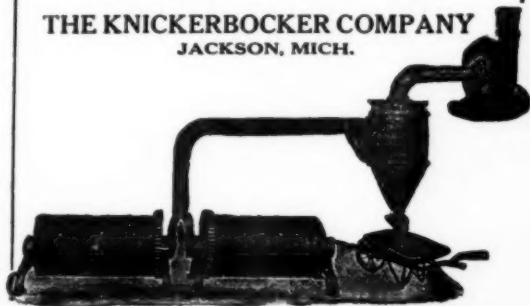
Doesn't it begin to look as though the Dust Collector so recommended was worth looking into? And Westinghouse is only one of our many satisfied big customers—we can also refer you to Solvay Process, Western Electric, General Electric, Buick Motor, Willis-Overland, and many others.

### *The "Rarefied" Dust Collector*

is operated on the "rarefied" or partial vacuum principle, the air being drawn thru the collector, and the dust is removed before the air reaches the fan. It is thoroly efficient, uses less power, and repair costs are kept down close to zero.

*Let us mail you our interesting Booklet*

**THE KNICKERBOCKER COMPANY**  
JACKSON, MICH.



**Spindle Speeds  
to 10,000 R. P. M.**



**Sigourney No. 0  
All Ball Bearing  
High Speed Sensitive  
Bench Drill Press**

An unusually sensitive drill for accurate work at high speeds. Like all Sigourney Drills, it is sold on quality rather than price. All parts are interchangeable.

Sigourney Drills are made with one to four spindles. They are all extremely sensitive, accurate and durable.

*Write  
for  
Booklet*

**THE SIGOURNEY TOOL CO.,**

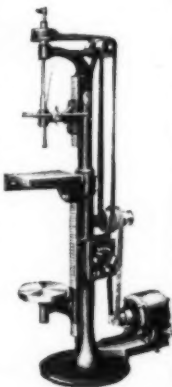
**Hartford, Conn.**

**A Complete Sensitive  
Motor  
Driven 14" Floor Drill  
For Only \$115**

A simple, convenient, rugged machine, made by machine tool builders, for the quick and accurate drilling of holes up to  $\frac{1}{2}$ ". Steel spindle ground to size, with ball thrust bearing; vertical adjustment to head; tables for long and short work; three speeds; high grade throughout.

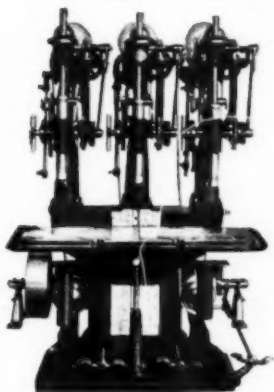
**Only \$115 f. o. b. Cincinnati,** with motor, switch and belts. Furnished for countershaft drive, or for motor drive without motor, switch and belts, **only \$70.**

**The U. S. Machine Tool Co.**  
1952 W. 6th St., Cincinnati, Ohio



# Superior Conveniences —

*Always Means Greater Economy*



**Rockford  
Automatic  
Gang  
Drilling  
Machine  
has such  
Conveniences**

**Built with 2, 3, 4 and 6 Spindles—Box Column Type**

*Superior Equipment* pays because it either increases the output, or improves the quality of the work, or both. The Rockford has accomplished both in many shops, and very likely can do so in yours. We invite you to write us about your drilling requirements.

*Automatic Return*—When each spindle has completed its operation it automatically returns to its highest position, where it remains until the starting lever is tripped, when it immediately drops to position above the work.

*By Removal* of the stop pin in the cam, the spindle will immediately return to lowest position above work, and when tripped by automatic stop, will return to highest position and immediately drop again to work, repeating the movement automatically until the power is shut off. The spindle can be pulled ahead of the feed while in operation, a great advantage in drilling through a cored piece, piping or similar work.

*A postal brings the Circular. Let's hear from you.*

**Rockford Drilling Machine Co.**  
**Rockford, Illinois**



## Several Holes At Cost of One

A U. S. Multiple Spindle Drill Head transforms a single-spindle drill into a multiple spindle.

You can drill two or more holes with the same speeds and feeds you use for drilling one.

Patented double adjustment permits drilling in any pattern. Special heads made to order.

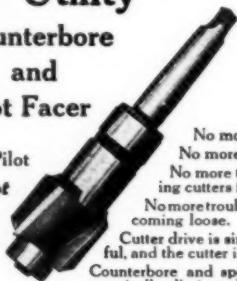
*Let us help you reduce those drilling costs*

**The United States Drill Head Co.,** 1952 W. Sixth St., CINCINNATI, O.

Michigan Agents—National Sales Engineering Corp., Detroit, Mich.

## The "Utility" Counterbore and Spot Facer

With the Pilot  
that cannot  
twist off



*Write  
for  
Catalog*

No more broken pilots.

No more broken cutters.

No more trouble in removing cutters from holders.

No more trouble with set screws coming loose.

Cutter drive is simple and powerful, and the cutter is easily removed.

Counterbore and spot facer troubles practically eliminated.

**The J. C. Glenzer Company**

6469 Epworth Boulevard  
DETROIT, MICH.



## ETTCO Hand-Operated Keyless Drill Chuck

*There is no key to lose, often saving considerable loss of time.*

*The grip tightens as the work becomes harder. The turning of drill spindle forces jaws on to the conical screw, tightening their grip on the drill.*

*Easily released by hand, no matter how tight the grip.*

*New low prices and special trade-in offer. See your dealer or write to us for details.*

# Etcco



## High-Speed Sensitive Tapping Attachment

*Real sensitive tapping without adjustment, with unusual smoothness and speed, are its main features.*

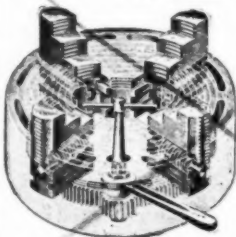
*The leather-lined cone clutch and cast iron driving cones have a smoothness of action and a slipping point which prevents tap breakage. Speed under instant control, and reverses twice as fast. An aluminum case and light alloy steel parts reduce weight to a minimum.*

*Ask us about Etcco Chucks  
and Tapping Attachments*

## Eastern Tube & Tool Co., Inc.

580 Johnson Ave., Brooklyn, N. Y.

## Why Have Two Kinds of Chucks?

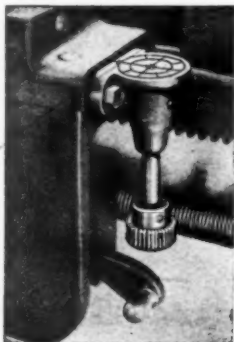


Now that the Westcott Spur Geared Combination Chuck has the combined features of an independent and universal chuck, why continue to buy both types for your plant? Save the cost of one extra chuck by getting a Westcott Combination. The extra strength, greater capacity, flexibility, and the perfect adjustment make Westcotts the choice of thousands of plants.

*Why not get our catalog?  
Write for a copy today*

**WESTCOTT CHUCK CO.** **Walnut St.,  
ONEIDA, N. Y.**

## E-Z THREAD DIAL Cuts Cost of Thread Cutting



on all sizes of

## Engine Lathes

This new device also increases your efficiency in thread cutting.

Eliminates stopping or reversing the lathe.

Saves cost of backing belt and the power to drive it.

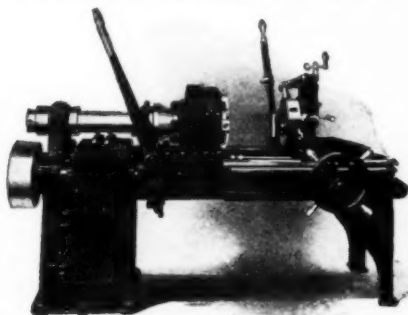
Fast growing in popularity.

*Write for folder today!*

**JAMES M. COLVEN**  
20 Wolfe Street, Yonkers, N. Y.

# **Rapid, Perfect Pipe Threading**

**With the Always Dependable B & Ks**



**No. 2 P D Q C—Threading and Cutting Off—Cap.  $\frac{1}{4}$ " to 2"—Belt Drive**

## ***The Many Superior Features—***

embodied in these modern machines have caused them to be regarded as standard equipment in plants of all sizes in every part of the country. They always make good, regardless of what kind of pipe threading job they are used for.

## ***You Obtain Maximum Production—***

accuracy and economy with B & Ks. We build them to stand up to the strenuous life of the modern shop. You can make instant adjustment to the 1000th of an inch without the use of tools. The 17 styles and sizes thread pipe from  $\frac{1}{4}$  to 18 in. in diameter.

*Write us today about your needs—our production experts will gladly advise what we can do for you*

**Bignall & Keeler Machine Works**  
**EDWARDSVILLE, ILL.**



Style "WC"



Style "O"



The Hinge



Style "G"



Style "A"

### Gits Gravity and Wire Wick Feed Oilers

**Gravity Feed**—flushes the bearing.

**Wire Wick Feed**—gives desired prolonged feed.

**Wire Wick**—replaces waste or felt.

Made in Standard sizes.



Style "L"

**Write for Catalog No. 20**

Showing 255 full size illustrations with detail dimensions.



Style "U"

### GITS OIL CUPS

Oil cups for every lubricating need. State style and size in which you are interested, and we will send free samples and catalog.



Style "T"

**GITS BROS. MFG. CO**  
1940 SO. KILBOURN AVE., CHICAGO



## TITAN QUICK CHANGE CHUCK

Its driving ability, quick change and safety features we believe make the "Titan" the nearest to drill chuck perfection ever designed.

Simply strike end of drill, and it is removed from collet with speed and safety, without key, hammer or special device. A one-armed man can do it.

The broken tang collet gives a positive drive to drills with broken tangs.

Sizes No. 0 to No. 5 for any taper shank drill, counterbore, reamer, etc.

*Write for descriptive price list*

**Titan Tool Company**  
Erie, Penna.



## Our Pipe Benders Meet The Demand



Ever since their invention our hand Pipe Benders have had a steady sale and have given universal satisfaction.

Recently, we have made some improved attachments that permit of a wider range of work and open up a new field in the kind of bending the machine will accomplish.

If you do pipe bending you will find our machine an economical, simple and very efficient appliance in reducing costs and doing better work. For 2" and under.

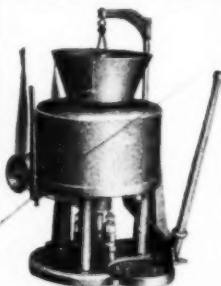
*We have a Bulletin waiting for you. Send for it now*

**Pedrick Tool & Machine Co.**

**3644 N. Lawrence St., Philadelphia, Pa.**

Manufacturers of Cylinder Boring Bars, Portable Millers,  
Crank Pin Turning Machines, etc.

# The Curtis Oil Extractor



No. 150—Capacity:  $\frac{3}{4}$  Bushel

The amount of oil reclaimed by the Curtis Improved Centrifugal Oil Extractor really is amazing to the uninitiated. In 20 installations the average saving was 2.17 gallons per 100 lbs. of chips, after they had been drained—a saving well worth while.

Made in two sizes, belt or self-contained motor drive. The illustration shows our smaller size, belt driven.

Furnished, if desired, with attachment to introduce live steam or liquids, for separating, washing or drying.

*Glad to send illustrated Catalog  
It's interesting and instructive*

**The Leon J. Barrett Co.,** Worcester, Massachusetts  
*Successors to Curtis Machine Co.*



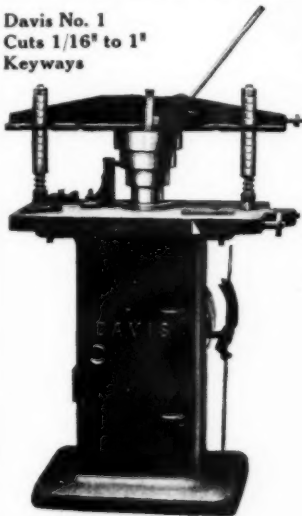
Tolhurst Chip Wringers reclaim 6 to 15 gallons per load and handle three or four loads per hour.

**Write**  
**TOLHURST MACHINE WORKS**  
TROY, N.Y.

# Rapid Keyseating—

## In Quantity or in Small Lots

Davis No. 1  
Cuts  $1/16"$  to  $1"$   
Keyways



Cutting Keyway in Cone Pulley

### THE DAVIS

has the  
speed for  
economical  
production  
of standard  
parts.

### THE DAVIS

can be  
set up  
quickly  
in the  
general  
shop for  
all sizes  
of keyways  
within its  
capacity.

**The Davis** is simply constructed, is difficult to get out of order, and is easy to adjust and operate. It is a rapid and economical producer of accurate keyways under all conditions.

**Write for folder**, which describes it fully, with a table of cutting time that tells its own story.

**Davis Keyseater Company**

255½ Mill St., Rochester, N. Y., U. S. A.

# LOOK—a HERE!

## It's A KEYSEATER

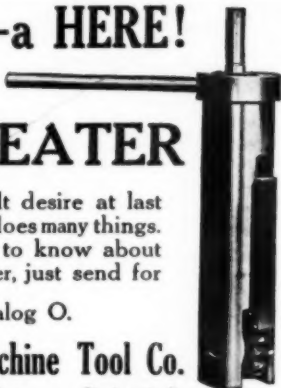
The long-felt desire at last  
satisfied. It does many things.  
If you want to know about  
this keyseater, just send for

Catalog O.

### National Machine Tool Co.

2268 Spring Grove Ave.,

Cincinnati, O.



## Re-Arranging Your Shop?

Don't Dismantle Shafting  
to Cut the New Keyseats



Use a  
BURR  
Portable  
Keyseater

Cuts accurate  
Keyways up to  
12" long any-  
where, in any  
position, in shafts  
up to 5" diam.

Seven sizes. Operates by hand or power.

*Over 9,000 in use; order now and save money*

### JOHN T. BURR & SON

422 Kent Ave., Brooklyn, N. Y.

# Keyseats in Shop or Ship Yard

Are Cut Quickest with a Catlin

Having less than half the number of parts of other keyseaters, it is a simple machine to operate, and ordinary help easily runs it at top speed.



The picture shows the size that takes care of the needs of most machine shops. The stroke is adjustable up to 13", and it cuts keyseats from 1/16" to 1 1/2". Our other sizes will do all the keyseating that may come up in any shop or ship yard.

Catlins make new records every day — on some classes of work it is possible to keyseat piece after piece without clamping down the work, or stopping the machine.

Here's a time and labor saver that helps to reduce shop costs. We shall be glad to send you full description, showing capacities of the various sizes.

*Drop us a line today*

**Chattanooga Machinery Company**

2401 Bennett Ave., Chattanooga, Tenn.

## Vanderbeek Universal Joints



—represent the practical refinements of 25 years experience in manufacturing Universal Joints. All parts are generous sized, fully protected against dirt, and are practically self-oiling. Exceptionally strong, they transmit full power up to 70°.

Vanderbeek Joints are in daily use on thousands of machines.

*Write today for our Descriptive Catalog.*

**American Tool Works, Inc.**  
Hartford, Conn., U. S. A.



## POWELL BLOW GUN

**Designed to dispense AIR with utmost economy**

*Used for cleaning machines, machine tools and work benches*



**Made with different tips for special requirements.**

*Circular on request.*

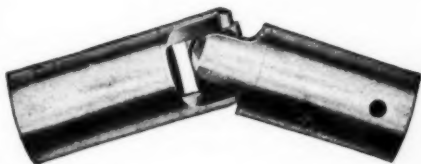
**The Wm. Powell Co.**

**2525 Spring Grove Ave.,**

**Cincinnati, O.**

# NATCO

## Universal Joints



The interchangeable method of manufacture of NATCO Universal Joints permits repair parts replacement to overcome natural wear. Complete replacement is very seldom necessary.

Manufactured in the following sizes—  
 $\frac{3}{4}$ "—1"—1 $\frac{1}{4}$ "—1 $\frac{1}{2}$ "—2"

*Descriptive Bulletin will be  
sent on request.*

**National Automatic Tool Co.**  
Richmond, Indiana



## "Borgeson Universal Joints"

Are you a user of Universal Joints?  
If so!

Remember well and bear in mind that a good Universal Joint is hard to find. But if you want one tried and true, you will want the "Borgeson" before you are through.

You will become not only a "Buyer" but a "Booster" for "Borgeson."

SIZES:  $\frac{3}{8}$ ,  $\frac{1}{2}$ ,  $\frac{5}{8}$ ,  $\frac{3}{4}$ ,  $\frac{7}{8}$ , 1,  $1\frac{1}{8}$ ,  $1\frac{1}{4}$ ,  
 $1\frac{1}{2}$ ,  $1\frac{3}{4}$ , 2,  $2\frac{1}{2}$ ,  $2\frac{3}{4}$ .

Should you require Special Universal Joints, be sure to write for quotation.

*Complete description gladly  
furnished upon request*

**The Borgeson Mfg. Co., Inc.**  
Torrington, Conn.



## The Blue Book

Goes to the Heart of 96% of  
the Best Plants in the Country

The above statement is the result of careful mail inquiries directed to thousands of the larger tool-using concerns.





*Wire*  
**DANLY**  
*for*  
**Die Sets**

*Completely assembled, or in the "knock down"  
ready for assembly*

**BUSHINGS                      LAPS**  
**LEADER PINS                DOWEL PINS**  
**AND COMPLETE LINE OF ACCESSORIES**

You save 20 to 50% by ordering from Danly instead of making your own.

It's so convenient, too! No bother, no delay, no uncertainty. Order from the catalog.

More than 2500 leading concerns use Danly Standard Die Sets and Accessories as standard equipment.

Write nearest office for catalog and facts

*Immediate shipment from nearest warehouse*

**DANLY MACHINE SPECIALTIES**

Incorporated

4913 Lincoln Avenue

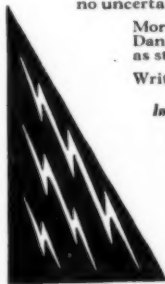
CHICAGO, ILL.

Detroit, Mich.

Long Island City, N. Y.

1537 Temple Av.

35 Wilbur Av.





## Atlas Arbor Presses

**For All Forcing Operations**

Illustration shows our No. 55 Power Drive Press, which is adaptable for fast production work and capable of supplying ten tons pressure.

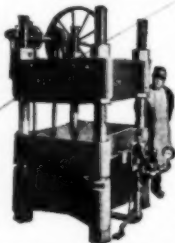
*Write for our Bulletin—  
showing 30 different sizes*

**Atlas Press Co.**

*Department B,  
Kalamazoo, Michigan*

## Do You Know

**That Hydraulic Presses Can Be Made To  
Operate As Fast As Geared Presses ?**



**WE SPECIALIZE—**

**on Quick-Acting Presses  
with Automatic Control.**

**WE BUILD—**

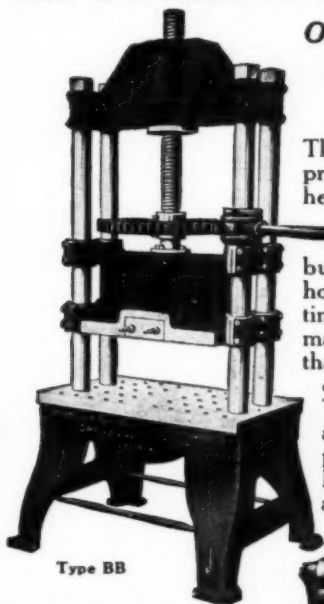
**Presses in Any Size and  
for Any Purpose Requiring  
Pressure.**

*Write For Catalog*

**LOURIE MFG. CO., Springfield, Ill.**

# The Die Maker's Best Friend

## *One-Man Four-Post Screw Press*



Type BB

This extremely rigid press is made for heavier work than our three smaller sizes, but they all save hours of valuable time and labor. One man fits dies quicker than two can do on other machines. They give perfect alignment between punch and die. Type BB has 20x36" table, and 80-ton pressure.

## Surface Grinder

Powerful—rigid—accurate—  
no vibration--no noise--a revelation  
in quiet efficiency. Graduated feeds.

*Details and prices for a postal*

## JARECKI MACHINE AND TOOL CO.

Successor to Manhattan Machine & Tool Works  
Dept. A. GRAND RAPIDS, MICH.



# There with the Punch

Great Power backed by  
heavy rugged design enable

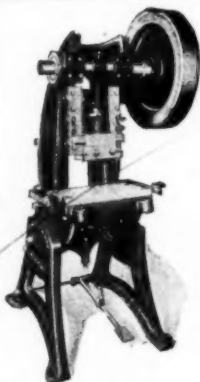
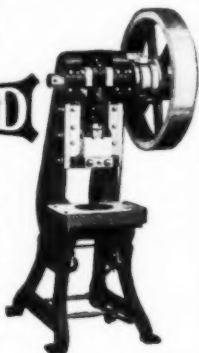
HIGH DUTY  
**ROCKFORD**  
PUNCH PRESSES

to out-punch and out-work  
any press of their capacity.

Their punch-ability and  
accuracy will surprise you.

*Write for catalog*

**Rockford Iron Works**  
ROCKFORD, ILL.



Trade **Verson** Mark

## No. 3 O. B. I. PUNCH PRESS

Weight 2200 lbs.

Standard Equipment

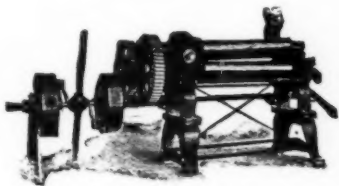
Includes the

**Following Features:**

- Non-Repeat Safety.
- Safety Lock for use while setting dies.
- 5-Inch Jaw Clutch.
- 2 $\frac{1}{4}$ " Diam. Crankshaft.
- Ball Socket Slide Connection.
- Cross Bar Knock-out.
- Hand Wheel Inclining Attachment.

*Write for Catalogue*

**La Salle Machine Works** 3013 S. La Salle St.,  
CHICAGO, ILL.



# BELOIT

INITIAL TYPE

## Sheet & Plate Bending Rolls

---

The Beloit Initial Type Rolls are built in a large number of sizes and capacities, and for a great variety of work.

The modern design of the Beloit Rolls of this type makes it possible for the operator to curve plates completely to the edge, thus getting away from the undesirable flat near the edge of the sheet.

The quick-acting cam lever device raises the top roll for the removal of completed cylinders.

Individual and simultaneous adjustment of both ends of the forming roll can be furnished, and the machine can be arranged for third roll drive, when necessary.

Those in the market for Bending Rolls cannot afford to fail to give us their specifications, and to get our quotations.

*We solicit your inquiries for Bending Rolls, either Initial Type as shown above, or the Pyramid Type machine, as well as for Punching and Shearing Machinery, both hand and power.*

---

**Hendley & Whittemore Co.**  
100 S. State St.,                      BELOIT, WIS.



No. 1, 2 & 5

## When All Is Said

and done, you cannot beat our line of tools for cutting sheet, bar or round rods in iron or mild steels.

*You can use our line of*

## Hercules' Shears and Rod Cutters

For cutting card, straw and fibre boards, brass and copper, gold and silver sheets, and hard rubber compositions.

*Catalog No. 2 on request.*

**W. C. & F. C. TUCKER**  
HARTFORD, CONN.

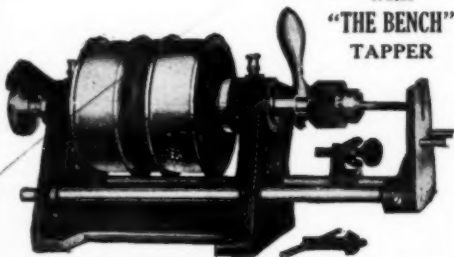


Plain Shears Nos. 3 & 4

## 2 Seconds per Tapped Hole

with

**"THE BENCH"  
TAPPER**



$\frac{3}{8}$  Capacity **\$55<sup>00</sup>** Complete f.o.b. Philadelphia

**THE BENCH MACHINE TOOL CO.**

Makers of "THE BENCH" Rod Cutters

222 N. 13th Street,

Philadelphia, Pa.

**Your Production In Cutting Off Any Number  
Of Pieces Can Be Increased And At Less Cost**

## **The No. 5 Marvel**

*It feeds  
the bar*

High Speed Hack Saw  
illustrated here is en-  
tirely automatic and  
excels in cutting speed



MANUFACTURERS all over have adopted this machine for quantity production, because they like the way it piles up the duplicate pieces, all accurately sawed off and all done *entirely automatically* without the operator's attention, and they like the saving of time, labor and blades. Almost every manufacturer has lots of such work. This is the modern way to do it.

*Send for a catalogue giving full details.*

*Advise with us on your cutting-off problems.*

**Armstrong-Blum Mfg. Co.**

**341 N. Francisco Ave.,**

**CHICAGO, ILL.**

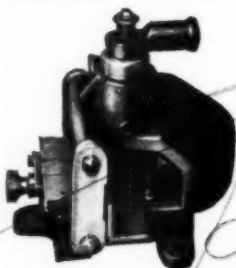
## SOMETHING NEW



**Hand Power Presses, Shears, Notchers,  
Punches and Dies, Etc.**

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**J.F. Kidder Mfg. Co., Burlington, Vt.**

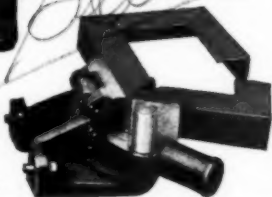


**No. 50 and 51  
Angle Iron Notcher  
and Bender**

*Either can be used individually  
Capacity, will Shear Mitre in  
2"x2"x1/4" Angle Iron*

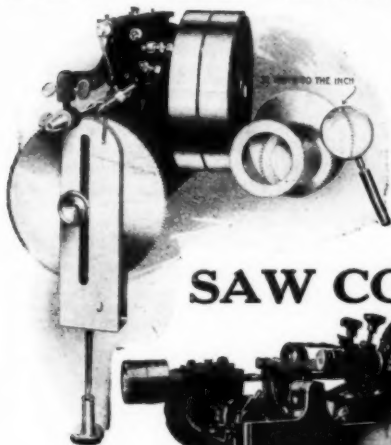
**Write for Prices**

**WHITNEY  
METAL TOOL CO.  
95 Forbes St.  
ROCKFORD, ILLINOIS**





# SET THE BRAKES ON



**Model J**

*Resharpens all  
soft or medium  
tempered  
Circular Saws  
used for cutting  
Brass, Bronze,  
Fibre, Wood,  
Etc.*

## SAW COSTS

**Model E**  
*Salvages all  
Cold, Milling,  
Slitting and  
Screw Slotting  
Saws*



## AS HAVE

American Brass.....	who have.....	19
American Hard Rubber, .....	who have.....	10
Continental Fibre .....	who have .....	23
Formica Insulation .....	who have.....	10

**THE  
FILER  
KNOWS**

**IT COSTS 5 CENTS**

**To Sharpen a Saw on one of these Machines**

*Write for our FREE booklet on saw maintenance*

**THE WARDWELL MFG. CO.**

Specialty Manufacturers of the largest line of Saw Filers made in the U. S.  
108 Hamilton Ave., CLEVELAND, OHIO

**Model "25"**

In a  
Leather Case  
with  
Universal  
Attachments

**Only  
\$10.**



## **FEDERAL Dial Indicator**

Adjusts instantly to any desired position on a surface or height gauge; also for checking lathe, miller, grinder, shaper or planer work.

Send for our complete catalog of Dial Indicators, Cylinder Gauges, Comparators, Thickness Gauges, Piston Gauges, Rubber Gauges, Piston Pin Gauges, Fabric Gauges, Paper Gauges, Wire Gauges, Piston Ring Gauges, Thread Lead Gauges.

**Federal Products Corporation**

*On a Surface Gauge* Elbow & Chestnut Sts., Providence, R. I.

**Compact—Sensitive—Accurate—Durable**

## **The "ATLAS JUNIOR" INDICATOR**

Reads over a range of 0.055"—at a glance. Dial may be set at zero after adjusting to work. Contact point can be locked in position for inspecting. Keep it in your pocket and use it anywhere. Details?

**PRICE \$7.50**



*Sold by Dealers or Direct*

**WALLACE BROS.**

160 N. Wells St., Dept. B.B. CHICAGO, ILL.

**for** Hardening  
and  
Annealing



## WILSON-MAEULEN PYROMETERS

Indicating—Recording—Controlling

No matter how small or how large the job may be, if a pyrometer of any kind is needed tell us so we can recommend suitable equipment and quote.

## ROCKWELL HARDNESS TESTERS



This is what you need to test annealed or heat treated steel.

It is cheaper to inspect than to let bad pieces get by.

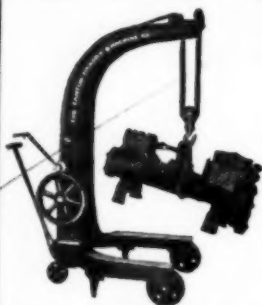
*Eliminate  
Complaints*

## WILSON-MAEULEN COMPANY INC

*Our Representatives have Demonstration Testers*

**St. Mary's St. & Concord Ave., New York City**

## Giant "CanTon" Carries Three Tons



### The "CanTon" Portable Crane, Hoist and Truck

makes it easy for one man to handle machinery and castings which ordinarily require the combined efforts of 6 to 10 men. 'Nuff sed.

That it will pay for itself in a short time is a foregone conclusion. Just drop us a line and

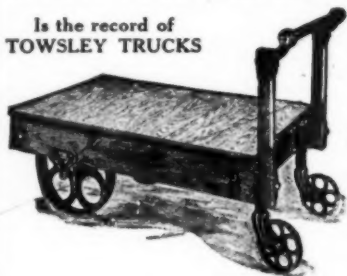
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**CANTON FOUNDRY & MCHE. CO., Canton, Ohio**

New York Office: 203 East 15th Street, Second Floor

## 500% Annual Dividends

Is the record of  
**TOWSLEY TRUCKS**



### TOWSLEY TRUCKS

repay their cost every two to three months.

Let us tell you how.

Made in every style for every need.

*Write us about this profitable investment*

**John T. Towsley Mfg. Co., Cincinnati, Ohio**

# FORD TRIBLOC



## "Safety First" Hoists

By resisting the surge and shock of hoisting service in the shop—the strength, safety and smooth action of Ford Triblocs are saving man power and labor hours, and speeding human effort.

Workmen appreciate the advantages of Ford Triblocs—management profits through their use.

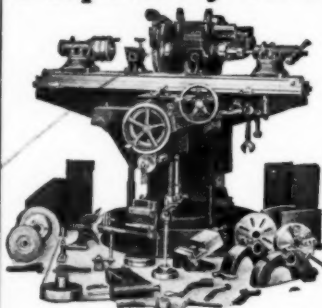
**Capacities  $\frac{1}{4}$  to 20 tons**

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**FORD CHAIN BLOCK COMPANY**  
2nd & Diamond Sts., Philadelphia, Pa.

22468-10

# Perpetually Sharp Tools



This ideal is most nearly realized with the improved

## Thompson Universal Grinder

Has no equal for all plain, surface, edge, die, cutter and internal grinding. Capacity is 10"x36".

Write for Illustrated Bulletin today

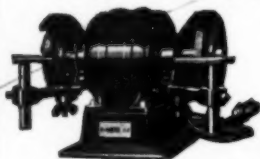
Manufactured By  
**THE THOMPSON GRINDER CO., - Springfield, Ohio**

# Competition—

**Makes Efficient Tools a Necessity**

**—and the—**

**Sharpest Tools are the Most Efficient**



## THE BODINE Portable Electric TOOL GRINDER

Is the one machine which has correctly solved the problem of keeping tools sharp.

THE BODINE isn't "just a grinder." It is a highly specialized tool for increasing profits by increasing production. It makes it so easy to keep the cutting edges of tools at maximum efficiency.

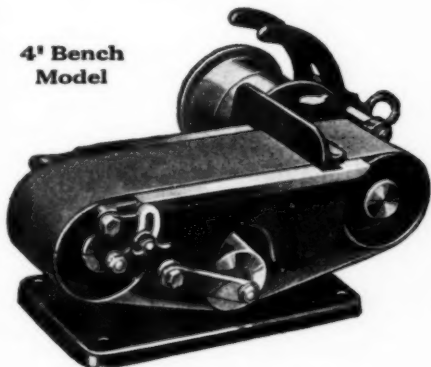
Write for a copy of "Eight Outstanding Advantages."

**The Bodine Electric Company**  
2256 West Ohio St., Chicago, Ill.

# **PEERLESS SURFACING MACHINES**

*for*  
**Grinding and Finishing  
Flat Work**

**4' Bench  
Model**



**Larger Machines in Both  
Horizontal and Vertical Styles**

***SEND FOR FOLDER***

**PEERLESS SURFACING MACHINE CO., Inc.**  
**TROY, N. Y.**

*High Quality—Right Prices—Good Service*

## **Hollow Bored Forgings and Steel Shafts**



**Piston Rods**

**Rams**

**Clutch Shafts**

**Steel Pipe**

**Lathe Spindles**

**Etc., Etc.**

*Send blueprints with trial order or for quotation*

**American Hollow Boring Co.**  
**Erie, Penna.**

*Use all the  
Grinding Surface!*

*Because the—*

## **Syracuse Disc Grinder**

*grinds all the surface smooth  
and flat at one operation, it is  
faster than wheel grinding.  
If you wish to learn more  
about this economical method,  
send us samples pieces  
or write for bulletin.*



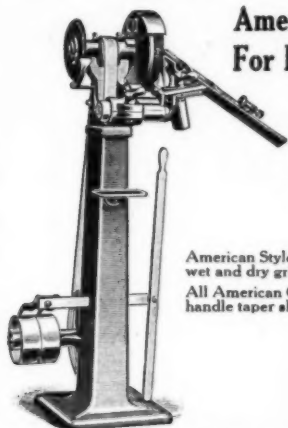
**PORTER-CABLE**

**Machine Company**  
**Syracuse, N. Y.**



# La Salle Grinders

**American Style C T A  
For Dry Grinding Only**



Unexcelled as a dry grinder for twist drills. Extra large drill holder has capacity from 1" to 3½".

American Style W T A is arranged for both wet and dry grinding.

All American Grinders are now equipped to handle taper shank drills.

## **No. 1 Plain and Surface Grinder**

(Micrometer Adjustment)

Grinding wheels.....	8"x1"
Between wheels.....	15"
Height to spindle center.....	40"
Table surface.....	8"x14"

Has vertical travel of 12" on guides, ¾" by micrometer, and may be raised to within 2" of spindle center. Wheel grinds to center of a surface 9" wide.



*Let us know your grinding requirements*

## **LaSalle Tool Company**

LaSalle, Illinois, U. S. A.

## Burnishing by the Thousand

At a Cost of a Few Cents



### *The Abbott Burnishing Process*

Puts a brilliant uniform surface on small metal articles at lowest cost.

Now equipped with gear guards, belt shifter and strainer cover.

*Description  
and prices?*

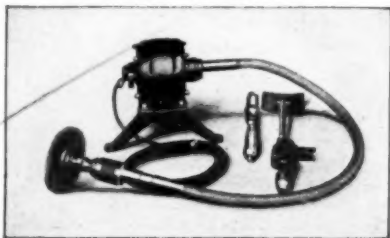
**THE ABBOTT BALL COMPANY**

Elmwood District,

Hartford, Conn.

## The Whirlwind Buffer and Grinder

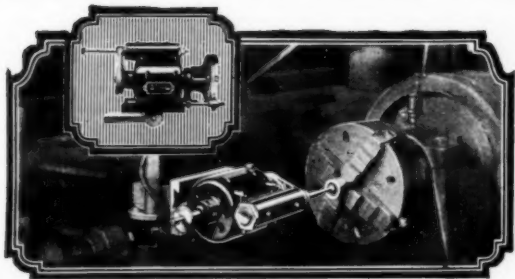
Will cut the cost on any unhandy grinding or polishing job



*Send for our latest bulletin*

**Stow Flexible Shaft Co.,** 3454 Ludlow St., Philadelphia, Pa.

*The Best Since 1876*



## Even SKF Trusts Its Grinding to Dumores

**T**HE photograph above shows a Dumore No. 2-AG grinder in action in the tool room of the Hess-Bright Mfg. Co., subsidiary of SKF Industries, Inc. Here again Dumore grinders have been approved by an internationally famous institution; another convincing proof of their ability to perform reliably and efficiently regardless of how exacting or how difficult the requirements may be.

The same features that make Dumore grinders worthy of the trust of such a world prominent concern as SKF Industries, will be equally valued by you, once you have used them in tool room or shop. Available in six styles and sizes—each with individual speed ranges—they offer a grinder with the correct cutting speed for any grinding need. Dynamic balance and smooth operation of Dumore grinder motors eliminate vibration. Ability to operate on either alternating or direct current assures 100% utility. Portable, they save tearing down expensive set-ups.

If maintenance of grinding limits as close as .0001, without taper, bell-mouth or chatter marks, appeals to you; if greater production, lowered labor costs and other resultant advantages of Dumore operation interests you, it will pay you to send for our grinder catalog. Your copy is wrapped—ready for the mail. All we need is your name and address. Write!

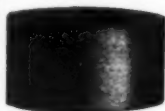
Wisconsin Electric Co., 43 Sixteenth Street, Racine, Wis.

# DUMORE HIGH SPEED GRINDERS



## We've Made Punches For 35 Years

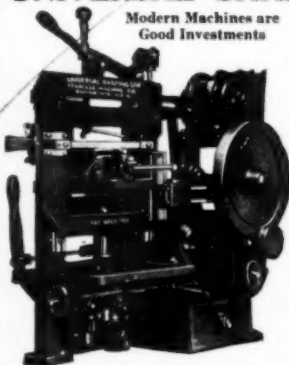
Anyone who has made punches for 35 years knows how, and T. H. L. Punches are as good as we know how to make them. The result is most satisfactory and profitable service.



Send us a trial order and you'll come again. We carry a large stock of regular sizes for immediate delivery. Special sizes quickly made. Don't you need a few now? Let us hear from you.

**T. H. Lewthwaite Machine Co.**  
417 East 31st St., (Est. 1890) New York City.

## —PEERLESS— UNIVERSAL SHAPING SAW



Modern Machines are  
Good Investments

Latest and Most  
Efficient in Hack-saws  
Faster — More Accu-  
rate and Economical

### **REDUCES**

Cutting Time  
Wasted Material  
Blade Expense

### **ELIMINATES**

Semi Finishing Jobs  
Cap. 6"x6", 9"x9", 13"x13"

### **PEERLESS**

HIGH SPEED HACK-SAWS  
6"x6" 9"x9" 13"x16"  
Sturdy--Efficient--Reliable

### **Peerless Machine Co.**

1609 Racine St.  
Racine, Wisconsin

*Write for Details*

# Why Continue The Waste?

The "Good Enough" of Yesterday  
HAS BEEN OUTCLASSED  
In Methods for Truing Grinding Wheels

---

The largest factories in the U. S.  
are adopting our truing tools and  
are saving at least one-half of  
their former diamond cost.

## You Can Do the Same

---

Any good mechanic can use these  
tools successfully by following the  
simple instructions.

## The Saving is Worth While

---

The tools are not an experiment, as  
one concern has several hundred  
of them in use every day and there  
are scores of concerns using them  
on their best work.

**BETTER-FASTER**  
**and Decidedly Less Cost**

---

*Ask us for information*

**The Precision Truing Machine & Tool Co.**  
**CINCINNATI, OHIO**

The Right Saw for the Purpose



The national standard  
with points of the  
diamond embedded  
within the cutting edge  
High Speed Steel  
Cutting Machine

## This Free Chart

### The Correct Guide in Cutting

Your request on your letterhead will bring this authoritative chart.

### RACINE "JUNIOR"

Portable High Speed Metal Cutting Machine, easily moved to any location near electric light socket. Smooth, vibrationless, need not be bolted to floor. Normal capacity 0 to 4".

Use "Racine" H. S. Wood and Metal Band Saw Blades & "Racine" H. S. Tungsten Power and Hand Hack Saw Blades. *Catalog H.*



Belt or  
Motor  
Driven.

Positive  
Lift  
Draw  
Cut.

**Racine Tool & Machine Co.**

1429 Junction Av., Racine, Wis.

"STANDARD THE WORLD OVER"

## Excels All in Cutting—

Hard Steel; Forming Tools; Drills; Reamers; Tubes; Rods and Bars of Copper, Brass and Aluminum; Carbon; Crayon; Metal Covered Wood Rods, Etc.

Makes a quick, thin, smooth cut, saving time and material. Doesn't draw the temper, and saves grinding. Soon earns its cost.

8" Size \$22.50, with C. S. Splended for tool room. Cuts all high-speed steel up to  $\frac{3}{8}$ " square.

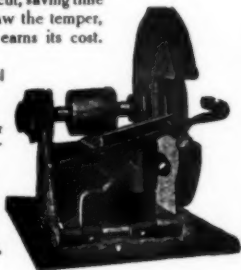
12" Size \$60, with C. S. Cuts up to  $\frac{2}{4}$ " diameter, round or square, at any angle up to 45 degrees. Ball bearing.

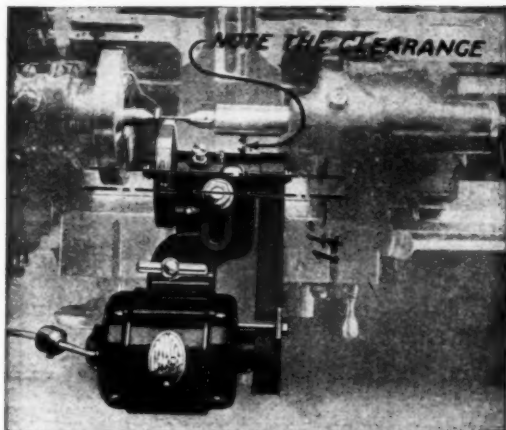
**15 Days' Free Trial**

Write us or ask your dealer

**PETER BROTHERS MFG. CO.**

115 Railroad St., Algonquin, Ill.





The Smallest Piece can be Ground Between Centers

The most Flexible **Precision Grinder** And it's Portable  
**For Internal and External Grinding**

It has the sturdy construction to meet every demand, yet is light enough to be portable and usable on the various machine tools in your plant.

Built on a precision basis, it is particularly valuable where the allowable limits are held inside of tens of thousandths of an inch.

Those who are using this highly developed grinder, find it a most valuable addition to their tool room or machine shop equipment.

*Write for our Booklet, which describes many new features and illustrates several operations in internal, external and surface grinding.*

*Manufactured by*

**J. E. GILBERT GRINDER CO.**

214-16-18 Greenbush St., \_\_\_\_\_ MILWAUKEE, WIS.

**SERVICE TOOL DIE & MFG. CO.**

2256-58 W. Walnut St., CHICAGO, ILLINOIS

*Distributors for—ILLINOIS, OHIO, INDIANA, MICHIGAN*

## This Power Feed Miller \$220

### BURKE No. 4

Longitudinal feed.....	8"
Traverse feed.....	4"
Vertical feed.....	8"
Table surface.....	3½' x 16"

Can be equipped with Index Centers, Vertical Milling Attachment, Slotting Attachment, Draw-in Chuck Attachment, and vises with plain or swivel base or quick acting. Very accurate.

We make both power and hand feed machines at prices ranging from \$100 to \$220.

### The BURKE MACHINE TOOL COMPANY

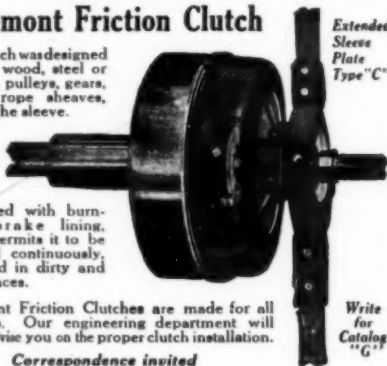
297 East 16th Street  
CONNEAUT, OHIO



Write for  
Catalog

## Edgemont Friction Clutch

This clutch was designed to drive wood, steel or cast iron pulleys, gears, drums, rope sheaves, etc., on the sleeve.



Extended  
Sleeve  
Plate  
Type "C"

It is lined with burn-proof brake lining, which permits it to be operated continuously, and used in dirty and dusty places.

Edgemont Friction Clutches are made for all purposes. Our engineering department will gladly advise you on the proper clutch installation.

Correspondence invited

Write  
for  
Catalog  
"G"

Edgemont Machine Co., Inc., DAYTON, OHIO



## Save Time Setting Gang Milling Cutters

Eliminate  
Thin  
Washers



Hardened  
and  
Ground

PATENTED

**"Wear-Ever" Adjustable Spacing Collars** permit setting cutters to the thousandth part of an inch without removing from the arbor.

Stock sizes for  $\frac{3}{4}$ " to  $2\frac{1}{2}$ " arbors, sent on approval. They are adjustable in 12 steps of  $\frac{2}{1000}$  inches.

**SCULLY-JONES & CO. TOOL DIVISION**  
13th and Robey Streets CHICAGO, ILL.

## Steel Spacing Washers—

Made of a good grade of Cold Rolled Strip Steel, also known as Shim Steel



Stock sizes for arbors of following diameters:  $\frac{3}{8}$ ,  $\frac{1}{2}$ ,  $\frac{5}{8}$ ,  $\frac{3}{4}$ ,  $\frac{7}{8}$ , 1,  $1\frac{1}{8}$ ,  $1\frac{1}{4}$ ,  $1\frac{3}{8}$ ,  $1\frac{1}{2}$ ,  $1\frac{3}{4}$ ,  $1\frac{7}{8}$ , 2,  $2\frac{1}{4}$ ,  $2\frac{1}{2}$ , 3,  $3\frac{1}{2}$  and 4 in. and larger.

Stock thicknesses: .002, .003, .004, .005, .006, .007, .008, .010, .012, .015, .020, .025, .032, .047, .063, .093 and .125 inch.

Other thicknesses up to 3.000" made to order, with keyways if so ordered.

Ask us to send samples; you'll like them

**Detroit Stamping Company**  
3443 West Fort St., Detroit, Mich.



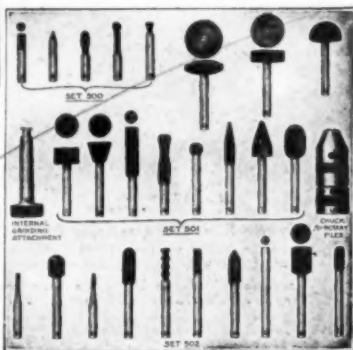
## Strand Rotary Files

Used with Strand  
Flexible Shaft  
Machines. Are  
giving excellent  
service.

Write for Catalog

N. A. Strand & Co.  
5001 No. Lincoln St.  
CHICAGO

## HIGH SPEED HAND CUT ROTARY FILES



## ARMSTRONG Complete Line of RATCHET DRILLS



*Packer*, for rough service; *Standard*, for general use; *Weston*, extra heavy; *Universal* and *Short Ratchet*.



Write  
for  
our  
Ratchet  
Drill  
Catalog

### The Armstrong Universal

The "Universal," shown above, may be used in awkward corners and confined spaces where other Ratchets are useless. Often pays for itself on a single job. Simplest, strongest, fastest.



## Armstrong Bros. Tool Co.

"The Tool Holder People"

308 N. Francisco Ave., Chicago, U. S. A.



## A Tool in Your Need— Is Your Friend Indeed

When That Tap Snaps—you have the expense of paying for the labor needed to remove it, and any delay in doing this means a corresponding delay to the work in hand.

A Walton Tap Extractor keeps this labor and delay down to minimum. Insert the fingers of this handy device into the work, give it a few twists, and the tap backs out easily and safely.

Sizes No. 8 to 1¼".

*Try one out for sixty days and then  
judge its efficiency*

**The Walton Company**  
Hartford, Conn.

## BICKNELL-THOMAS Friction Tapping Machine



Capacity  
0 to 3/16"

The most simple, durable, completely equipped, compact, easiest operated and most productive bench tapping machine built. The cone friction drive is automatically adjusted by the pressure the operator puts on spindle, making an extremely sensitive drive, saving time and taps and increasing output. Furnished for either direct or alternating current.

*You should have specifications; may we send them?*

**Bicknell-Thomas Company**  
90 Wells Street, Greenfield, Mass.

Ja  
Chuck

# The Alto <sup>Motor Driven</sup> Bench

High-Speed, Low-Price, C

A high-speed machine, with a reverse three times as fast as the forward movement. It is complete with motor, and needs only to be connected to a light socket to be ready for operation. A simple construction makes its low price possible.

The "Alto" is easily operated, with a simple and quick reverse. The cone friction drive permits tapping to the bottom without danger of breaking tap. Capacity, 3/16" in brass, 1/8" in steel. Weight, 45 lbs., complete with motor.

For complete information concerning this

ALTO MANUFACTURING CO., 1647-5

*This advertisement is  
in the interests of good Drilling  
by the makers of the Ja*

Save time a



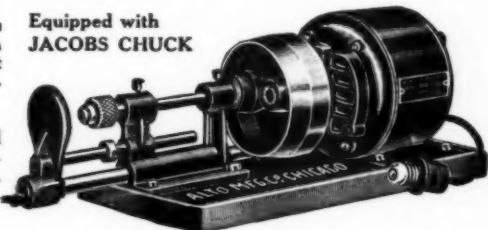
# ch Tapping Machine

rice), Complete with Motor

s as  
with  
ight  
con-

Equipped with  
**JACOBS CHUCK**

and  
tap-  
tap.  
lbs.,



arning this High-Speed Tapper, write to—

**1647-51 Wolfram St., CHICAGO, ILL.**

nt is published in the  
*Drilling Equipment*  
the Jacobs Chuck.

time and you save dollars



Patented  
Jan. 30, 1917



## New "AUTEX" Extension Reel 1925 Model

Don't Forget the Swivel Joint Feature

Permits of carrying the lamp  
in any direction.

**Type 8** Rapidly finding a place in large  
Industrial Plants, Machine  
Shops and Service Stations.

Now equipped with Belden Rubber Cord  
Approved by the Underwriters

*Write for descriptive circular*

**The Cincinnati Specialty Mfg. Co., Inc.**  
1903 Powers St., Cincinnati, Ohio

# Thor

## Electric Drills —

**Use It  
Anywhere!**



**J**UST plug in on the lighting circuit and the THOR  
Portab'e Electric Drill is ready for use. Take the  
THOR right to the job. No need to carry the  
work back and forth. ¶ You'll find an unusual combination of power,  
speed and durability in a THOR. ¶ Built throughout with rugged, easy  
running parts, THOR Drills are designed for drilling, reaming, wood-  
boring and screw driving. Jacobs Chucks are regular equipment.

*A THOR will save you money. Write today for our new illustrated  
catalog. It describes the complete THOR line. No obligations.*

**Independent Pneumatic Tool Co.**  
600 W. Jackson Blvd., Chicago, Ill.



## Positive Elimination Of Tap Breakage—

is something we all have been looking for but found it difficult to obtain until the invention of the "Woodstock."

### *The Woodstock Improved No-Tap-Breakage Chuck*

—automatically releases tap the instant it binds or strikes bottom. Utilizes up to 95% of strength of tap, with positive assurance it will not break. A boy can adjust it. Will save time, temper, labor and money in your shop.

*Glad to send you one on trial right  
now for that "tap bustin" job*

**Peter Bros. Mfg. Co.,** 115 Railroad St.,  
ALGONQUIN, ILL.

Let us solve  
your difficult

## Riveting Problems



Many an awkward riveting job has had to be done by hand until they investigated the

### **GRANT ROTARY RIVET SPINNER**

It is especially adapted to handling pieces of awkward shape and to work in hard-to-get-at places.

Besides, it is noiseless; all work is uniform, as tight or loose as desired, with highly polished heads; its speed is a rivet per second, and it may be operated by cheap help.

*Write for Catalog and send us some of  
your most difficult work for riveting*

**The Grant Mfg. & Machine Co.**  
C. E. Station, Bridgeport, Conn.

*Just write us the make and swing of  
your Lathe and we'll do the rest*



**Hardinge Standardized  
Draw-in Chucks or Collets  
For All Makes of Lathes**

Also Collets for Bench Type Milling Machines and for Screw Machines. Prompt shipment from stock. Write for Price List and keep it for reference. And what do you need now?

**HARDINGE BROTHERS, Inc., 4149 Ravenswood Av. CHICAGO**

***The* BARKER GENERAL PURPOSE VISE**

**For Planers, Shapers, Drilling and Milling Machines**



*Steel faced jaws*

*Graduated to swivel  
any angle*

*Extra heavy for  
hard usage*

The screw runs through entire length of vise, with bearing on each end. Nut at rear equalizes strain. Sizes 8" and 12" General Purpose and 16" Mold Makers' Vise. Sturdily built, and so exceptionally handy that users would not part with them. Be sure to get our literature and prices before buying.

**WM. BARKER & CO.**

**Manufacturer of Machine Tools,**

**COVINGTON, KY.**



## Anderson Improved Balancing Ways

### Ever-Ready—Sensitive—Reliable



They need no adjusting. The rotating discs made of chilled iron run in specially designed ball bearings and are exceptionally sensitive. You will like 'em.

The six sizes have no equal for balancing pulleys, gin brushes, turbine rotors, crank shafts, polishing wheels, fly wheels, etc.

"Swing"	20"	40"	60"	72"	96"	72"
Greatest distance bet. standards	20"	30"	30"	66"	88"	20"
Capacity in lbs.	1000	2000	2000	5000	10000	24000
Approx. shipping weight	45	90	150	350	650	
Code	Ben	Bid	Bis	Bis	Ben	

*Any of above can be furnished with longer shafts*

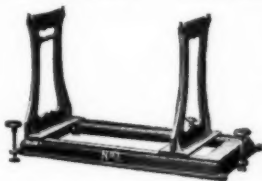
## Anderson Bros. Mfg. Co.

1915 Kishwaukee St., Rockford, Ill.

## For Sure Balance--

an absolutely level and solid "Way" is necessary

## Bowsher "Balancing Ways"



are brought to an absolute level in ten seconds. No revolving parts.

The edges or "knives" upon which the work is tested are ground true, and are mounted upon the planed "ways" of a heavy bed or frame.

Standards adjustable to suit length of arbor.

Three sizes for floor—one for bench use

*Send for Catalog "F"*

## The N. P. Bowsher Co., South Bend, Ind.

The Nicholson Patented  
**Expanding Mandrels**  
Are Saving Lots of Money



**Strong!**

**Rigid!**

**Accurate!**

**Y**OU LOSE no valuable time, nor is a job delayed, when a set of Nicholson's Mandrels are available. Compared to these up-to-date tools, solid mandrels are an expensive make-shift.

Nicholson Expanding Mandrels come in sets of nine, with two or three sets of jaws for each. And *one set* will cover the *entire* range between one-half and seven inches, inclusive. In other words, at least one of these mandrels will take absolutely *any* hole, no matter what it is, between these two dimensions, without calipering or guess work, and the nine will replace *all* the solid mandrels.

They are adaptable to work of the most varied nature. They save time and labor out of all proportion to their moderate cost.

*Write today for the instructive Booklet  
and our 30-day trial offer*

**W. H. Nicholson & Company**

117 Oregon Street,

Wilkes-Barre, Pa.

## Second-Hand Machinery

Lists of Second-Hand Machinery, either For Sale, Wanted or For Exchange, set in uniform style, will be published under this heading at the rate of **50 cents a line**, across the page, each issue, plus **\$2.50** for name and address. Minimum charge, **\$5.00**. No display permitted in this department.

**Write directly to those offering the machines for sale** for prices and full descriptions. If what you seek is not listed, use the blank enclosed to make known your wants to the publisher, who will pass them along to all Machine Tool Blue Book advertisers.

**Circulation of Machine Tool Blue Book, 25,000.**

### WANTED BY

**J. S. Deuse,**

**Chester, Conn.**

#### OIL ENGINE.

I am in the market for a 40 h. p. De La Vergne oil engine; must be in first-class condition.

### FOR SALE BY

**Mid-West Machine Tool & Supply Co.,**

**Davenport, Iowa**

With a good-as-new, money-back guarantee—Partial list.

Automatic, 18" Cleveland, model A.

Automatic, 24"-34" Cleve., model A.

Boring mill, 24" Bullard.

Boring mill, 36" Gisholt.

Drill, 36" Colburn heavy duty.

Drill, 20" four-spindle Rockford.

Drill, 2-spindle Leland-Gifford.

Drill, No. 22 Natco.

Engraving machine, Gorton.

Grinders, No. 10 B. & S. pl., s. p. d.

Grinder, Oakley tool & cutter, new.

Grinder, 10"x36" Norton plain.

Hobbers, Barber-Colman No. 3.

Millers, No. 2 Hendey plain.

Miller, No. 3 Cincinnati plain.

Radial, 4' American sensitive.

### FOR SALE BY

**McMullen Machinery Company,**

**Grand Rapids, Mich.**

Automatic, 3" Cleveland.

Automatics, No. 00 B. & S.

Band saw, 10" Napier, metal.

Cut-off saw, No. 4 N. & B.

Drill, 31" Barnes, sliding head.

Drill, No. 1 Avey 2-sp., p. f.

Grinder, Cleveland, profile.

Grinder, No. 6-A Bryant.

Lathe, 9"x21 1/2" Sundstrand, mfg.

Lathe, 24"x26 Greenlee, flat turret.

Ask for Complete List.

Miller, No. 2-H Becker vertical.

Pipe mch., 6" Merrill No. 64.

Press, Chicago scrap baler.

Press, No. 3 Manville, d. a.

Presses, No. 6 Manville, pillar, (3).

Presses, No. 6B Manville, pillar, (2).

Shear, No. 14 Pettengell, rotary.

Shear, No. 152 Niagara, sq.

Shear, No. 2 W. F. Co. 36" gang.

Welders, No. 10-A Thomson vert. (7)

### FOR SALE BY

**The Reeve-Fritts Company,**

**558 Washington Blvd., Chicago, Ill.**

Die filer, bench, motor drive, d. c.

Drill press, 45" Hoefler, assembling  
9/16" capacity.

Grinder, No. 1 Le Blond tool & cutter

Grinder, 12" Besly, disc, complete.

Lathe, 10"x4' Prentice, c. r.

Lathe, 14"x8' Rockford, q. c. feeds.

Lathe, 16"x6' Monarch, q. c. g.

Lathe, 22"x6"x8', Harrington, gap.

Lathe, No. 4 Cataract bench.

Milling machine, No. 2 Becker univ.

Pipe machine, 2" Jarecki.

Pipe machine, 4" Williams.

Planer, 22"x22"x5' Powell.

Press, No. 1 Walsh, o. b. i.

Press, No. 3 Cons., o. b. i., 1" str.

Press, No. 3 Rockford, o. b. i., 3" str.

Punch, No. 5 lever bench type.

Shop saw, No. 5 Marvel, automatic  
feed.

## SECOND-HAND MACHINERY

### FOR SALE BY

**Cyril J. Bath & Co., 6900 Machinery Ave., N. E., Cleveland, O.**

#### BORING MILLS.

- |                                 |   |
|---------------------------------|---|
| 42" Baush, 2 swivel heads, 75%. | 60" Niles, 2 swivel heads and one internal boring head. |
| 7' Betts, double head, 85%.     |   |
| 60" Colburn, rapid traverse.    |   |

#### DRAW BENCHES.

- 15,000 lbs. to 25,000 lbs. Waterbury-Farrel, United Engineering and Standard; 20" draw, with 18' extensions for mandrels, heavy cast iron; 85%.

#### DRILLS—MULTI-SPINDLE.

- 4-spindle 20" Barnes, 85%.
- 4-spindle Foote-Burt sensitive, 85%, (2).

#### DRILLS—RADIAL.

- |                        |              |
|------------------------|--------------|
| 5' Bickford plain.     | 4' Prentice. |
| No. 1, 8' wall radial. |              |

#### DRILLS—UPRIGHT.

- |   |   |
|---|---|
| 20" Mechanics-Rockford, 60%.              | 24" Cincinnati, slid. hd., fric. bk. grs. |
| 24" Rockford, as above, 85%.              | 28" Cincinnati, sliding head, 80%.        |
| 24" Kokomo hi-speed, slid. hd., 85%.      | 32" Cincinnati, with tap. att., 75%.      |
| 24" Aurora, slid. hd., gr. fd., 85%, (2). | 24" No. 25 Foote-Burt, 90%.               |

#### FORGING MACHINES AND BULLDOZERS.

- |  |                                     |
|--|-------------------------------------|
| No. 3, Williams & White double end bulldozer, 80%. | 4' Acme. steel bed, 90%.            |
| 1' Ajax, 75%, (3).                                 | 250-ton Mesta steam hydraulic, 85%. |
| No. 4 Williams & White. bulldozer.                 | 14" all steel Acme, 85%.            |

#### GRINDERS.

- |   |  |
|---|--|
| No. 3 Brown & Sharpe univ., 70%.                          | Washburn drill grinder, 70%.                 |
| 10x36" Modern univ., and parts, 70%.                      | Yankee drill grinder.                        |
| 84" Diamond surface, 85%.                                 | Whitney wet tool grinder, 20"x2" wheel; 75%. |
| No. 75 Heald internal, with extra spindles and c/s., 85%. | 18x96" Norton plain, 75%.                    |
| No. 4 Gardner, motor, disc, 85%.                          |  |

#### HAMMERS.

- |  |  |
|--|--|
| No. 8 Beaudry, power, arranged for motor drive, 80%. | 850-lb. Bell, steam forging, 85%.                                  |
| 100-lb. Bradley, helve, 75%—90% (3).                 | 1500-lb. Waterbury-Farrell, board drop, 80%, (2).                  |
| 500-lb. Bradley, upright helve, 80%.                 | 2000-lb. Waterbury-Farrell, board drop, 80%, (2).                  |
| 800-lb. Billings & S., board drop, 75%.              | 800-lb. to 4000 lb. Chambersburg and Massillon steam drop hammers. |
| 800-lb. Waterbury-F., board dr., 75%.                |  |
| 800-lb. Lane, steam forging, 80%.                    |  |

#### LATHES.

- |   |  |
|---|--|
| 14"x6" Hendey tool room, t. a., 75%.                          | 20"x8" Lodge & Shipley, d.b.g., 75%.     |
| 16"x8" Hamilton, belt feed, 50%.                              | 24"x12" Reed, belt fd., l ch. grs., 60%. |
| 16"x9" Chard, with chucks, 90%.                               | 25"x14" LeBlond heavy duty, (3).         |
| 18"x8" Lodge & Shipley, 70%, (4).                             | 32"x18" Schumacher, cone head, 60%.      |
| 18"x8" American, 3-step cone, late model, compound rest, 85%. | 36"x18" Schumacher, tri bk.grd., 75%.    |
| 19"x8" LeBlond, friction hd., 60%.                            | 48"x26" Bridgeford, grd. hd., t.a., 85%. |

#### MILLING MACHINES.

- |  |                                     |
|--|-------------------------------------|
| Style "B" Gooley & Edlund, 80%, (2).   | No. 3 Brown & Sharpe, plain, 65%.   |
| 20"x7"x18" Oesterlein plain, 50%.      | No. 3B Brown & S., pl., heavy, 60%. |
| No. 0 Steptoe plain, univ. heads, 90%. | No. 5 Becker, 50%, (4).             |
| No. 0 Rockford, new.                   | No. 13 B. & S., Lincoln type, 50%.  |
| No. 1 Rockford pl. bk. geared, 90%.    | Becker miller, model "C." table     |
| No. 2 Brown & Sharpe vertical, 50%.    | 14"x54", motor drive, 85%.          |
| No. 2 Cincinnati plain, 80%.           |                                     |

#### PLANERS.

- |                                    |  |
|------------------------------------|--|
| 22"x24"x57" Fitchburg, 75%.        | 30"x10' Lodge & Davis, sgl. hd., 50%.                    |
| 24"x24"x8" Liberty, 1 head, new.   | 60"x48"x16" Pond, 2 hds., old style, light pattern, 50%. |
| 24"x8" Pond, single head, 50%.     |  |
| 30"x30"x8" Gray, single head, 80%. |  |

#### PIPE MACHINES.

- 4" Jarecki, with dies and countershaft, late model, 85%.
- 8" Jarecki, with dies and countershaft, late model, 85%.

## SECOND-HAND MACHINERY

**Cyril J. Bath & Co.—Continued**

### PRESSES.

Waterbury-Farrel trimmers, 56" flywheel, 4" stroke, 60%, (3).

No. 57 Toledo trimmer, with side shear, 80%.

Small Pratt & Whitney trimmer, stroke 3", 70%.

Waterbury-Farrel trimmers, 60" flywheel, 80%, (2).

No. 55 Cleveland, 85%.

Old No. 56 Toledo, 75%.

59½" Toledo, straight side, single crank, tie rod frame, 80%.

No. 56 Consolidated, 4" stroke, 80%.

### PUNCHES AND SHEARS.

No. 2 Hilles & Jones horizontal punch, 70%.

54" gap American ship punch, capacity 1" thru 1", 70%.

5" Pels bar shear, all steel frame, 85%.

No. 7 Cleveland alligator shear, all-steel frame, 6" square capacity.

### SAWS.

6" Racine hack saw, 75%.

9" Racine hack saw, 75%.

### SHAPERS.

20" American, crank, belt, 80%.

21" Averbeck, 75%.

24" Walcott, crank, back geared, 90%.

32" Gould & E. invincible type.

### SLOTTERS.

10" Newton, with countershaft, 75%.

12" Sellers, 75%.

16"-18" Dill; adjusting ram, arranged

for motor drive, 80%.

### TUMBLING BARRELS.

Several sets 18"x48" chill lined square, with roller bearings and exhaust.

### TURRET LATHES AND SCREW MACHINES.

21" Gisholt, standard model, 70%.

7-A Potter & Johnston automatic.

No. 4 Bardons & Oliver, 50%.

### WOODWORKING TOOLS.

12" Fay & Egan pattern lathe, 90%.

Fay & Egan pony planer, 90%.

15" Silver post drill, 90%.

Fay & Egan rip saw, 90%.

### MISCELLANEOUS.

Blower, American, 9' fan, motor driven, 85%.

Blowers, Sturtevant, motor driven, 85%, (2).

Bolt cutter, 2" Acme, double head.

Boring machine, for cylinders, portable, 4" bar, 7" feed, arranged for motor or engine drive, 75%.

Gear cutter, 36" Gould & Eberhardt, 60%.

Gear hobbers, No. 12 Barber-Colman, 90%.

Gear hobber, S-A Lees-Bradner.

Magnetic chucks, 90%, (2).

Riveter, Hanna I-beam frame, 12" gap, 90%.

## FOR SALE BY

**The O'Brien Machinery Co.,**

**113 N. Third St., Philadelphia, Pa.**

Drill, 32" Aurora, motor driven, tapping attachment.

Drill press, 24-spd. multiple Natco, motor driven.

Grinders, foundry, Norton heavy duty, (2).

Hammer, 100 lb. Massillon, steam.

Lathe, 22"x11' Lehmann, geared head, taper attachment.

Lathe, 22"x12' Mueller.

Lathe, 24"x12' Schumacher & Boye.

Lathe, 36"x21' Whitcomb-B., nitr.dr.

Lathe, 36"x15' L. & S., taper attach.

Miller, No. 3 Kempsmith universal.

Pipe machines, 2", 4", 6", 8" & 12"

Oster, Cox, Eaton-Cole & Burn-

ham and Jarecki makes, belt or

motor driven, complete stock.

Press, No. 54 Toledo gr. str. side.

Planer, 36"x36"x12" Woodward & Powell, motor driven, 3 heads.

Presses, Nos. 18, 19 and 20 Bliss.

Planer, 54"x54"x14" Pond Machine Tool Co., two heads.

Punch and shear, No. 3 Hilles & J., dbl. end, motor dr.; punch end,

42" thrt., cap. 1½" thru 1"; shearing end, 36" thrt., cap. 1" plate, 2½"

round, 7"x1½" flat, 5"x5"x½" angle.

Punch and shear, Pels combination; punching cap. 1" thick; shearing,

2" rd., 2½" squares, 6x6x¼" angles.

Radial drill, 36" Gang.

Radial drill, 5' Mueller.

Shapers, 12", 14", 16", 21" and 24" stroke, assorted makes.

Turret lathe, No. 64 Bardons & Oliver, 24" w. f. cap, cabinet base.

## SECOND-HAND MACHINERY

### FOR SALE BY

**Niles-Bement-Pond Company,** 111 Broadway, New York  
Located at our various factories

NOTE—All Motor-Driven Machines are for 220 volts, direct current.

#### PLANERS.

- |  |  |
|--|--|
| 24"x24"x 6' Whitcomb.  | 42"x42"x26' heavy Pond planer, 4 heads, reversing motor drive. |
| 24"x24"x10' Whitcomb.  | 72"x72"x32' Ridgway, 4 heads.                                  |
| 26"x28"x 6' Gray.  | 96"x84"x42' Bement, 5 heads, reversing motor drive.            |
| 30"x30"x 6' Pond, 2 hds., rev. mtr. dr.                        | 120"x120"x36' Betts, 4 heads, motor drive thru belts.          |
| 30"x30"x12' Pond, 2 hds., rev. mtr. dr.                        | 120"x120"x30' Bement, 4 heads, reversing motor drive.          |
| 36"x36"x12' Bement, 4 hds., paral. dr.                         | 143"x96"x35' Bement, 5 heads, reversing motor drive.           |
| 36"x36"x14' heavy Pond planer, 4 heads, reversing motor drive. |  |
| 36"x36"x24' Bement, 4 hds., paral. dr.                         |  |
| 38"x38"x12' Niles, 4 hds., parallel dr.                        |  |
| 42"x42"x18' Pond, 4 hds., parallel dr.                         |  |
| 60"x60"x20' Niles, 3 hds., parallel dr.                        |  |

#### DRILLING MACHINES.

- |                                  |   |
|----------------------------------|---|
| 32" Aurora.                      | 6' Niles semi-universal radial, motor driven. |
| 3½' Morris radial.               | 6' Niles univ. radial, motor driven.          |
| 5' Ridgway radial, motor driven. | 6' Pond radial, motor driven.                 |
| 6' Pond radial, motor driven.    |   |

#### LATHES

- |                                      |                                       |
|--------------------------------------|---------------------------------------|
| 16"x 6' Morris.                      | 30"x23' Pond, qk. ch., dbl. bk. grd.  |
| 16"x 8' Morris.                      | 32"x17' Pond, triple geared.          |
| 17"x 8' LeBlond, motor drive.        | 32"x67' Bement, triple grd., mtr. dr. |
| 18"x 8' Morris.                      | 36"x12' Pond, triple grd., motor dr.  |
| 18"x10' Morris.                      | 36"x17' Pond, triple grd., motor dr.  |
| 22"x10' Morris.                      | 36"x76' Bement shafting lathe.        |
| 22"x12' Morris.                      | 42" Pond forge lathe, motor driven.   |
| 24"x14' Pond, quick change.          | 60"x44' Pond, motor drive.            |
| 26"x10' Pond, motor drive.           | 72"x21' Pond, motor drive.            |
| 26"x16' Pond, quick change.          | 24"x26" Pratt & W. turret lathe.      |
| 26"x36' Pond, qk. ch., dbl. bk. grd. | 3"x36" Pratt & W. turret lathe.       |
| 30"x14' Pond, quick change.          | 28" Pond rigid turret lathe.          |

#### SHAPERS AND SLOTTERS.

- |                                       |                                   |
|---------------------------------------|-----------------------------------|
| 16" Stockbridge shaper.               | 10" Bement slotter.               |
| 17" Bement dbl. trav. hd. shaper.     | 15" Bement slotter, motor driven. |
| 20" Bement sgl. traveling hd. shaper. | 18" Bement slotter, motor driven. |
| 26" Worcester crank shaper.           | 21" Bement slotter.               |

#### MILLING MACHINES.

- |   |                                   |
|---|-----------------------------------|
| No. 3 Brown & Sharpe plain, motor driven.     | No. 5 Brown & Sharpe vertical.    |
| No. 5 Brown & Sharpe plain.                   | No. 10 Bement vertical.           |
| 48"x48"x14' Bement slab miller, motor driven. | 6"x48" Pratt & W. thread miller.  |
| No. 3 Cincinnati vertical miller.             | 6"x80" Pratt & W. thread miller.  |
|   | 6"x132" Pratt & W. thread miller. |

#### GEAR CUTTERS.

- |                            |                    |
|----------------------------|--------------------|
| No. 3 Brown & Sharpe spur. | No. 4 Newark spur. |
| No. 4 Brown & Sharpe spur. |                    |

#### VERTICAL BORING MACHINES.

- |  |                                       |
|--|---------------------------------------|
| 36"-44" Niles side hd. mill, motor dr. | 10' Niles boring & turn'g mill, m. d. |
| 100" Niles boring & turn'g mill, m. d. |                                       |

#### HORIZONTAL BORING MACHINES.

- |   |  |
|---|--|
| 40" Morris, horizontal boring and drilling machine, 2" bar.               |  |
| 46" Bement horizontal boring and drilling machine, 2½" bar.               |  |
| 60" Bement horizontal boring and drilling machine, 2½" bar.               |  |
| 66" Bement horizontal boring and drilling machine, 4½" bar.               |  |
| 70" Bement horizontal boring and drilling machine, 5½" bar, motor driven. |  |
| 60" Bement duplex control boring machine, 3½" bar, motor driven.          |  |
| Pond floor drill, 3" bar.   |  |
| Bement boring, drilling and milling machine, 3½" bar, motor driven.       |  |
| Niles boring, drilling and milling machine, 5" bar, motor driven.         |  |

#### MISCELLANEOUS.

- Grinder, No. 71 Heald internal, motor drive.  
Pipe machine, 2" Cox, motor driven.

## SECOND-HAND MACHINERY

### Niles-Bement-Pond Company—Continued

Punch, No. 3 Long & Allstatter horizontal,  $\frac{3}{4}$ " in  $\frac{1}{2}$ ".  
 Punch, No. 2 Long & Allstatter, 48" throat, 1" in 1".  
 No. D Long & Allstatter double machine, 36" throat, 3" in 1 $\frac{1}{4}$ ".

#### CRANES AND HOISTS.

Electric Traveling Cranes, 220 Volts, Direct Current.  
 50-ton crane, 60' span.  
 25-ton crane, 48' span.  
 5-ton crane, 20' span.  
 3-ton crane, 22' 6" span.  
 3-ton crane, 20' 2 $\frac{1}{2}$ " span.  
 3-ton crane, 19' span.  
 5-ton electric jib crane, 28' boom.

### FOR SALE BY

**Nelson Machinery Co., 123-131 N. Pearl St., Green Bay, Wis.**

Bending rolls, 5', used,  $\frac{3}{4}$ " capacity.  
 Disc grinders, new 14", cheap, (2).  
 Filing machine, used Noble & Westbrook, 1 $\frac{1}{4}$ " stroke.  
 Gas furnace, new Stewart No. 3, for soft metal melting.  
 Milling machine, hand, U. S., cheap.  
 Milling machine, No. 3 Kempsmith plain.  
 Press, used No. 1 Toledo, geared.  
 Screw machine, hand, used, No. 2 $\frac{1}{2}$  Pratt & Whitney.

### FOR SALE BY

**Wm. C. Johnson & Sons Machinery Co., 1211-1223 N. 12th St., St. Louis, Mo.**

#### DRILLING MACHINES.

3' arm Mueller, radial, s. b. drive.  
 3 $\frac{1}{2}$ ' arm post drill.  
 Barnes drills, all sizes.  
 24" Aurora, sliding head.  
 34" sliding head.

#### MILLING MACHINES.

No. 2 Kempsmith.  
 No. 4 Cincinnati plain, single pulley.  
 No. 5-B Brown & Sharpe.  
 No. 33 Kempsmith.  
 No. 2 Brown & Sharpe plain.  
 No. 2 Knight vertical.  
 Nos. 0 and 3 Burke bench.  
 Whitney hand miller.

#### GRINDERS.

5"x18" Ott grinder.  
 10"x36" Thompson universal.  
 Greenfield universal.  
 30"x84" Diamond face grinder.  
 12"x48" Landis plain.  
 Yankee twist drill.

#### PLANERS.

24"x24"x 6' Lodge & Davis.  
 32"x30"x 7' Whitcomb.  
 36"x36"x10' Flather.

#### SHAPERS.

Smith & Mills, all sizes.  
 24" American.  
 15" Hendey, arranged for motor.

#### LATHES.

14"-24"x8 $\frac{1}{2}$ " Barnes gap.  
 14"x 6" Monarch, q. c.  
 14"x 6" Sidney, q. c.  
 18"x 8" Greaves & Klusman, q. c.  
 20"x 9" Cisco, q. c.  
 21"x 8" Sidney, q. c.  
 24"x12" Advance.  
 26"x13" Putnam, q. c., arr. for motor.  
 26"-48"x26" McCabe, double spindle.  
 30"x15" American, q. c.  
 33"x20" Draper, triple geared.  
 36"x18" Prentice Bros., t. a.

#### MISCELLANEOUS.

Boring machine, horizontal, No. 2  
 Pawling & Harnischfeger.  
 Boring mill, No. 1 Binsse horiz.  
 Broacher, No. 1 LaPointe.  
 Bulldozer, 75-ton Lourie hydraulic.  
 Engines, Corliss, 75 to 200 h. p.  
 Magnetic pulley, 24"x26".  
 Pipe machine, 16" Bignall & Keeler.  
 Punch, No. 5 Long & Allst., 5" thrt.  
 Punch, No. 7 Long & Allstatter, 4" throat.  
 Riveter, 24" Shepard.  
 Screw machine, No. 6 Woods.  
 Shear, squaring, 10' Ohl, 3/16 cap.  
 Sheet metal cutter, No. 1 Gray.  
 Tilted turret lathes, Wood, (3).  
 Turret, 28" Gisholt, latest.  
 Wheel press, 84", 200 ton.

## SECOND-HAND MACHINERY

### FOR SALE BY

**McDonald Machinery Co.,**

**1531-33 N. Broadway, St. Louis, Mo.**

Bow rounder, No. 2 B. & S. auto.  
Clock, electric time system.  
Demagnetizer, Walker.  
Drills, Lel. Gif. 1-2-3 sp., h. s., b. b.  
Drill, Detroit 5-sp. horiz.  
Drill, Rockford horiz. boring & drill.  
Drill, Mueller 3 1/2' s. p. radial.  
Furnace, Holcroft 92 k. w. annealing.  
Lathes, Hamilton 27x14, Sidney 29x10,  
Bridgeford 27x9, Walcott 18x8, q. c.  
Lathe, Star 14x6, mtr. drive, collets.  
Milling machines, Hendey No. 2G  
univ.; LeBlond No. 4 heavy plain;  
Ohio No. 20 pl.; 2-Knight vert mill  
& drill; Becker "SD" vert, rotary  
table, 17200 lbs.  
Pipe machine, Oster 4", and dies.

Planers, Sellers 36"x36"x23', 2 heads;  
Pond 42"x42"x16', 2 heads.  
Punch presses, Consolidated No. 67  
geared, wt. 30,000; Ferracute No. 2,  
straight back; Swaine No. 40 arch;  
Neevel bench; Consol. Nos. 2 & 3.  
Punches, Felber 1" in 1", and Slitt  
shear; Scully, 20" throat, 1" in 1".  
Saw, Nutter Barnes 8" cold.  
Shaper, 26" open side planing; 15" &  
16" Smith & Mills; 15" Kelly; 16"  
Milwaukee, b. g.; 7" Rhodes.  
Shears, 60" thrt. rotary slitting, (2).  
Thread miller, Lees-Bradner No. 4.  
Torches, 50 vapor blast heat, new.  
Welders, 20 k. w. spot. Toledo, (2).  
Welders, butt, Federal, 1/2" rds.

### FOR SALE BY

**The H. A. Smith Machinery Co.,**

**Syracuse, N. Y.**

#### BORING MACHINES.

Gisholt 26".

Gisholt 42", motor drive.

#### CUTTING-OFF MACHINE.

Hurlbut & Rogers 4".

#### DRILL PRESSES.

Barnes 34".

Snyder 36", with tapping attach.

#### RADIAL DRILLS.

Hammond 4' sensitive, with tapping  
attachment, (3).

Fosdick, 3 1/2' arm.  
Fosdick, 5' full univ., motor drive.

#### GEAR CUTTING MACHINERY.

Fellows No. 62 gear shaper, m. d.  
26" Brown & Sharpe No. 3 spur.

Barber-Colman No. 12 gear hobbors,  
(2).

#### GRINDERS.

10x72 Landis, motor drive.  
12x48 Modern.  
16x53 Landis.

Brown & Sharpe No. 23 internal.  
Madison (Gisholt) automobile cyl-  
inder grinder.

#### LATHES.

14"x24"x54" Barnes, gap.  
16"x8" Pratt & Whitney.  
18"x8" Cisco, with taper.  
21"x12" Porter, with raising blocks  
to 34".

20"x10" Greaves-Klusman, geared  
head, with raising blocks to 28".  
12"x6" Seneca Falls tool room, (3).  
Porter-Cable, (3).  
Gisholt 16" simplified roughing.

#### MILLING MACHINES.

Cincinnati No. 3 plain, motor drive.  
Brown & Sharpe No. 13, production.  
Newton No. 365, spline.

Brown & Sharpe No. 3 vertical, late  
type.  
Brown & Sharpe No. 5 vertical.

#### PLANERS.

72"x54"x24" Pond, 4 heads.  
36"x36"x24" Pond, 4 heads.

26"x26"x 8' Niles.

#### SHAPERS.

15" Hendey.  
20" Cincinnati, back geared.

24" Hendey, motor drive.

#### AUTOMATIC SCREW MACHINES.

Brown & Sharpe No. OG.  
Cleveland 4 1/2", (3).

No. 53 National Acme four-spindle.  
No. 55 National Acme four-spindle.

#### TURRET LATHES.

Warner & Swasey No. 4.  
Warner & Swasey No. 6.

Gisholt 21", (3).

#### MISCELLANEOUS.

Tapping machine, Garvin No. 2-X.  
Tapping machine, Garvin No. 2.

Twst drill grinder, Sellers auto-  
matic.



## SECOND-HAND MACHINERY

### FOR SALE BY

**Chas. Mollter Machinery Co., 118-124 S. Clinton St., Chicago, Ill.**

#### LATHES.

- |  |  |
|--|--|
| 36"x14' American, q. c. g.                           | 16"x 8' Pratt & Whitney, q. c. g., taper, relieving attachment.    |
| 33"x10' LeBlond, q. c. g., hvy.                      | 16"x 6' Pratt & Whitney, taper, draw, collets attachments.         |
| 24"x16' LeBlond, plain.                              | 16"x 6' Bradford, q. c. g.   |
| 26"x10' Niles, q. c. g.                              | 16"x 6' Walcott, q. c. g.  |
| 24"x12' Walcott, q. c. g.                            | 14"x 6' Hendey.  |
| 24"x10' Lodge & Shipley, grd. hd.                    | 14"x 6' Sebastian, q. c. g., taper, geared head, motor attachment. |
| 20"x10' Boye-Emmes, qck. chg. gr., taper attachment. | 13"x11' Sebastian.   |
| 20"x 8' Monarch, q. c. g., dbl. g.                   | 12"x 8' Pratt-W., taper, draw collets.                             |
| 18"x 8' Morris, q. c. g., dbl. g.                    | 10 Cataract, Pratt & Whitney, Rivett and Elgin bench lathes.       |
| 18"x 8' Walcott, q. c. g.                            |  |
| 18"x 8' Sidney, q. c. g.                             |  |
| 18"x 8' Hendey, taper, draw-c. att.                  |  |
| 16"x 8' Morris, q. c. g., dbl. g.                    |  |

#### MILLERS.

- |                                  |                                    |
|----------------------------------|------------------------------------|
| 24" Bullard.                     | No. 3H Becker vertical (2).        |
| No. 2 Kempsmith universal.       | Gooley & Edlund, production.       |
| No. 1 Brown & Sharpe plain, (2). | Pratt & Whitney thread miller.     |
| No. 0 Brown & Sharpe plain, (2). | 24" Twin spline miller, P. & W.    |
| National Transit Co. plain.      | Bristol, Whitney, U. S. hand.      |
| No. 3 Becker vertical.           | National Acme auto. screw slotter. |

#### RADIALS AND DRILL PRESSES.

- |                                    |  |
|------------------------------------|--|
| 4' Fosdick, gear box feed.         | 4 spdl. Gooley & Edlund, 1/2" cap.       |
| 36" Mueller Tool Co.               | 1, 2, 3, 6 sp. Leland-Gifford, 3/4" cap. |
| 30" Dreeses, Mueller.              | 2, 4 spdl. Leland Gifford, 1/2" cap.     |
| 24", 26" Aurora, Cincinnati, etc.  | Large variety 14", 16", 20" drills.      |
| 2, 3 spdl. 24" Aveys, 1" cap. (3). |  |

#### GRINDERS.

- |   |                                     |
|---|-------------------------------------|
| Nos. 2 & 3 Brown & Sharpe univ.           | O. C. Walker surface, magn. chuck.  |
| Nos. 1 and 2 Cincinnati universal.        | 4"x20" Norton cylindrical.          |
| No. 2 Norton universal, magnetic chuck.   | No. 11 Brown & Sharpe.              |
| No. 1 Brown & Sharpe cylindrical grinder. | 18", 26", 40" disc, Gardner, Besly. |
|   | No. 23 Brown & Sharpe cylinder      |
|   | Nos. 60 & 65 Heald cylinder.        |

#### SHAPERS AND BOLT CUTTERS.

- |                                 |                                  |
|---------------------------------|----------------------------------|
| 20" Milwaukee.                  | 16" Lodge & Davis, crank.        |
| 16" Milwaukee, b. g. crank.     | 14" Acme, dbl. hd., lead screws. |
| 16" Smith & Mills, b. g. crank. | 2" National Acme.                |

#### SCREW MACHINES AND TURRET LATHES.

- |  |  |
|--|--|
| Jones & Lamson dbl., sgl. spindle.                               | 1" & 1 1/2" cap. Acme, b. g., frict. h.    |
| Nos. 0, 1, 2 B. & S. semi-auto.                                  | 1 1/2", 1 3/4", 2", 2 1/2" Cleveland auto. |
| No. 6 Foster, power long. & cross fd.                            | Nos. 0 & 00 B. & S. automatics.            |
| Nos. 0, 1, 2, 3 Foster, Bardons & Oliver, Garvin, W. S., P. & W. | 1/2" Gridley 4-sp. automatic.              |

#### PUNCH PRESSES AND SHEARS.

- |                                     |                                  |
|-------------------------------------|----------------------------------|
| No. 6 Bliss, Stiles pattern.        | No. 3 Niagara inclinable.        |
| No. 3 Long & Allstatter inclinable. | No. 3 Walsh inclinable.          |
| No. 3 Walsh inclined.               | No. 4 Walsh inclinable.          |
| No. 3 Black & Johnson.              | No. 5 Zeh & Hahneman inclinable. |
| No. 2 Consolidated inclinable, (2). | No. 5 1/2 Milwaukee inclinable.  |
| No. 3C Consolidated inclinable.     |                                  |

#### GEAR CUTTERS.

- |                                     |                                  |
|-------------------------------------|----------------------------------|
| 26" No. 3 Brown & Sharpe auto.      | Waltham automatic, (4).          |
| No. 13 B. & S., bevel & spur, (2).  | No. 10 Bilton gear hobbors, (4). |
| Nos. 1 & 1 1/2 Standard auto., (8). |                                  |

#### MISCELLANEOUS.

- |  |  |
|--|--|
| Beaders, power.  | Shears, circle and slitting.             |
| Corrugating machine, steel, 7"x36", rollers 4"x10'.                          | Shears, 40" serpentine & split'tg. (7).  |
| Hammer, 60 lb. Bradley.  | Spot welders, Toledo and Thomson.        |
| Rivet spinners, Grant.   | Tapping machines, all sizes.             |
| Drill & lathe chucks, Stromberg periodograph, time clocks, time stamps, etc. | Wire straighteners, 3/16"-1/2" Schuster. |

## SECOND-HAND MACHINERY

### FOR SALE BY

**Passman Bros.,** • 705 Washington Blvd., Chicago, Ill.

### TOOL BITS.

High speed tool bits 5/16" and 3/8", at 75 cents per lb. Sold on money back guarantee.

### FOR SALE BY

**Brownell Machinery Co.,** • 150 Pine St., Providence, R. I.

### BORING MILLS.

24" Bullard New Era.  
24" Bullard rapid production.  
42" Bullard New Era.

### DRILLING MACHINES.

42" Morris radials, s. p. d.  
6" Reed Prentice plain radials.  
25" Weigel, sliding head.  
23" Snyder, stationary head.  
14" Francis Reed.  
1-spindle Allen, h. s., b. b.

### GEAR CUTTERS.

No. 12 B. & S., universal, 12x8.  
No. 13 B. & S. automatic, 18x4.

### GRINDERS.

No. 12 B. & S. plain 8x36.  
No. 1 B. & S. universal 10x24.  
No. 1 Norton univ. tool & cutter.

### LATHES.

14"x 6" Monarch, q. c. g.  
20"x 8" Roulsted.  
26"x 16" Reed, taper.  
48"x 25" Israel Johnson.

### MILLING MACHINES.

No. 2B Rockford universal.  
No. 4 Cincinnati plain.  
No. 15 Garvin plain.

### PLANERS AND SHAPERS.

17"x 17" x 4' Whitcomb.  
17"x 20" x 5' Whitcomb-Blaisdell.  
22"x 22" x 5' Whitcomb.  
24"x 24" x 6' Powell.  
26"x 30" x 14' Whitcomb-Blaisdell.

### ROLLING MILLS.

3x 5 McWilliams.  
4x 6 Standard.

### METAL CUTTING MACHINES.

7K Atkins Kwik Kut hack saw, 8x8.  
6"x 6" Peerless.

### TURRET MACHINERY.

No. 2 Southworth hand screw mche.  
1 1/2x 18 Pratt & Whitney hand screw machine, b. g.  
No. 2 1/2 Garvin hand screw machine, g. f. b.  
3x 36 Jones & Lamson flat tur. lathe.

### MISCELLANEOUS.

Arbor press, No. 24 Atlas.  
Broaching machine, No. 0 LaPointe.  
Cornice brake, 4'.  
Drop press, 50 lb. Standard plain.  
Drop press, 100 lb. Standard auto.  
Drop press, 200 lb. Standard auto.  
Shears, 52" Hercules, foot squaring.

### WOOD-WORKING MACHINES.

Band saw, 26" Crescent.  
Jig saw, No. 1 Beach.  
Saw table, No. 650 Dover.

No. 1 Cleveland horizontal.  
No. 9 Giddings & Lewis horizontal.  
No. 35 Landis floor type horizontal.  
2-spindle Cincinnati.  
3-spindle Reed-Prentice.  
5-spindle Henry & Wright.  
3-spindle No. 34A Demco, bench, 3/4".  
4-spindle No. 34 A Demco, bench, 3/4".

No. 3 B. & S. automatic, 26x8.

No. 2 Norton univ. tool & cutter.  
No. 2 B. & S. tool & cutter.  
20" Taylor & Fenn wet tool.

48"x 28" Niles-Bement-Pond.  
60"x 24" Fifield.  
60"—90"x 40" Fifield.

No. 3 Owen plain.  
Type A Briggs manufacturing.  
No. 6 Becker vertical.

30"x 30" x 12' Bement-Miles.  
54"x 42" x 14' Gray planer, 3 heads.  
15" Potter & Johnston shaper.  
20" Stockbridge b. g. shaper.  
24" Potter & Johnston shaper.

5x 8 McWilliams.  
12x 18 Standard.  
No. 1 Burr cold saw.  
No. 2 Burr cold saw.

No. 2P Potter & Johnston combination piston and piston ring machines.  
Model B Cleveland full automatics, 3/4".

Shaft straightener, Rockford 3", 10' bed.  
Slotter, 12" Bement-Miles.  
Straight edge, Brown & Sharpe, 6'.  
Vises, 36 Garvin brand new No. 14 swivel base milling machine vises.

Saw table, Rollston, double arbor.  
Wood-turning lathe, 18"x 8" Fay & Scott.

# SECOND-HAND MACHINERY

## FOR SALE BY

**Marr-Galbreath Machinery Co.,**

**58 Water St., Pittsburgh, Pa.**

Angle & bar bender, No. 9 Buffalo.  
 Bender & straightener, No. 4 H. & J.  
 Blowers, No. 3 Stur., pressure.  
 Blowers, pos. pres., 2, 2½ & 5" outlet.  
 Bolt cutters, Acme 6", Landis 2½".  
 Bolt cutter, single 2½" head.  
 Bolt cutter, 2" Acme dbl., Landis hd.  
 Bolt cutter, 1½" Acme, triple head.  
 Boring mills, Rockford, 2" & 3" bar.  
 Boring mill, No. 21 Lucas hor., 2½" bar.  
 Boring mill, vertical, 72" Betts.  
 Boring mills, 51" Niles; 10'-16" Niles.  
 Boring mill, vertical 84", 2 heads,  
 220 v., d. c. motor, (near new).  
 Boring mill, 12" Pond, 2 heads.  
 Brake or press, 16" Robinson, toggle.  
 Bulldozers, Nos. 24, 6 & 30 W.-W.  
 Bulldozer, No. 1 W.-W. clutch pulley.  
 Compressor, 15x9x10 Bury, motor.  
 Comp'r, 2500 cu. ft. L. D. G., a. c. mtr.  
 Compressors, Curtis 2½x3" & 4½x4".  
 Compressor, 7"x6", Ind. Rand.  
 Compressor, steam, 884 cu. ft., Bury.  
 Compressor, 1300, 888, 599 cu. ft., m. d.  
 Drill, radial, 5" Pientice, g. b., st. d.  
 Drill, radial, 6" Baush, m. d.  
 Drills, 36" Hoefler: 24" Aurora, s. h.  
 Drill, 12" Washburn sensitive.  
 Drill, 28" Barnes, sliding hd., b. g.  
 Drill, 20" Rockford, sl. hd., q. c. g.  
 Drills, 22" Aurora upright (2).  
 Drills, No. 2 Colburn, mfg. type, (4).  
 Drill, Allen, 20" sensitive, 4-spdl.  
 Exhausters, No. 8 Buffalo.  
 Filing mch., Hartford, bench, 7" st.  
 Forging machines, 1½, 2, 2½ & 3".  
 Gear cut., No. 11 Univ. Dwight Slate.  
 Gear hobber, No. 12 Barber-Colman.  
 Grinder, No. 60 Heald internal.  
 Grinder, Gardner, 16" disc & ring w.  
 Grinder, Diamond dbl. end, 14" wh.  
 Grinder No. 1 Besley 12" disc, swing  
 and angle table.  
 Grinder, disc, No. 10 Besley, 18" wh.  
 Hack saw, Racine high sp., 6x6".  
 Hack saw, No. 4 Marvel, cap. 6x6".  
 Hack saw, No. 7-KC Atkins, 8x8.  
 Hammers, 80, 100 & 125 lb. Bradley.  
 Hammer, st. drop, 1500 lb. Erie, new.  
 Hammers, sgl. fr., 350, 800, 1100, 1500.  
 Hot saw & burring machine, Acme.  
 Keyseater, No. 1 Davis, cap. 1" key.  
 Lathe, 56"x16" American, trip. grd.  
 Lathe, 42"x32" Am., grd. hd., m. d.  
 Lathe, 36"x18" American, g. h., t. a.  
 Lathe, 32"x14", Draper, 2½" h. s.  
 Lathe, 30"x14" L. & S., q. c. g., t. a.  
 Lathe, 24"x10" L. & S., q. c. g.  
 Lathe, 18"x10" Porter, s. b. g., c. r.  
 Lathe, 18"x8½" Hendey, pl. change.  
 Lathes, 18"x10" L. & S. & LeBlond.  
 Lathe, 18"x8" Am., q. c. g., tap. att.  
 Lathe, 16"x8" Bradford, pl. change.  
 Lathe, 14"x6" Monarch, q. c. g., t. a.

Lathe, speed, 11"x4" Prentiss, t-rest.  
 Miller, bench, No. 1 Burke, hand.  
 Miller, No. 3½ Fox, hand, 24"x6"x14".  
 Miller, No. 4 Cin. pl., 18"x6"x15".  
 Miller, No. 3 LeBlond, pl. ind. hd.  
 Miller, No. 2 Kempsmith universal.  
 Miller, vertical, No. C Becker.  
 Miller, vertical, No. 4, Becker.  
 Miller, vertical, No. 2½ Becker.  
 Miller, Hendey Lincoln No. 2½.  
 Miller, Knight duplex, tbl. 8½"x32".  
 Miller, No. 0 Kempsmith universal.  
 Miller, No. 3 Cinc'i, plain 32"x9x20.  
 Miller, vertical No. 0 & 1 Bickett.  
 Motor, ½ h. p., 230 volts, d. c.  
 Motors, 10 h. p., 110 v., d. c.  
 Nuttapper, ½" Acme 6-sp. semi-auto.  
 Oil separator, No. 2 Roper, belt.  
 Pipe machines, 6" & 2" Jarecki.  
 Pipe machine, 8" Saunders.  
 Planer, 143"x56"x36", 5 heads, m. d.  
 Planer, 120"x120"x36", 4 heads, m. d.  
 Planer, 96"x84"x42", 5 heads, m. d.  
 Planer, o. s., 72"x72"x18", 3 hds., m. d.  
 Planer, 60x60"x12" Pond, 3 hds., m. d.  
 Planer, o. s., 48"x48"x16", 3 hds., m. d.  
 Planer, 42"x42"x12" Betts, 1 head.  
 Planer, 42"x36"x20" Cin'ti, 4 heads.  
 Planer, 26"x26"x5" Niles, 1 head.  
 Planer, 24"x24"x5" New H., 1 hd.  
 Press, No. 27 Bliss, horning, b. g.  
 Press, No. 56 Toledo, pl. trim., 3" str.  
 Press, No. 11 Perkins, pl. trim., 4" str.  
 Press, No. 82 Consolidated horning.  
 Press, Bliss No. 20, o. b. i.  
 Press, No. 16 horning.  
 Press, 152-B Bliss (Cleveland), 35"  
 between housings.  
 Press, 93-A Toledo, double crank.  
 Punch, Cleveland 7" tht. cap. ½"x½".  
 Punch, 15" thts., dbl., ½"x½", arch. jaws.  
 Punch & shear, H. & J., 72" tht.,  
 cap. 1½"x1½", motor drive.  
 Punch & s., No. 2 L. & A., 30" tht., a. j.  
 Pyrometer, 32 to 3000 deg. F.  
 Riveter, ½" Shuster, style A.  
 Rivet hammers, 3-A, 4-A, 5-A, hi. sp.  
 Rivet spinner, 3/16" Grant rotary.  
 Rolls, bending, 20"x½" H. & J., d. e.  
 Rolls, bending, 40"x1", m. d.  
 Saw, No. 11½ Hegley, cap. 4" blade.  
 Shaper, 15" Kelly, sgl. grd. crank.  
 Shaper, 24" Steptoe, bk. grd. crank.  
 Shears, Quickwork No. 6, m. d.  
 Shear, splitting, No. 26 Beloit, cap.  
 ½", m. d.  
 Shear, rotary, ½" Lennox, 8" gap.  
 Shear, squaring, 42" Niagara, ft. pwr.  
 Shear, sq., 37" Toledo, 16 ga., belt.  
 Slotters, 16"x18" Bement-Miles.  
 Testing mchs., 100,000, 200,000 lbs.  
 Turret lathe, No. 1 Bardons & O.  
 Turret lathe, Libby 21", motor drive.  
 We Buy, Sell and Exchange.

## SECOND-HAND MACHINERY

### FOR SALE BY

#### The Patterson Tool & Supply Co.,

Dayton, Ohio

Drill, 15" Hoefler 4-sp., used... \$175.  
Drill press, BW-1 Sipp..... 150.  
Furnace, 5-A Frankfort..... 75.  
Grinder, 14"x48" Modern..... 500.

Lathe, 13"x6" Willard, used... \$175.  
Saw, metal, No. 3 Swind, new... 200.  
Screw machine, No. 2 B. & O.. 175.  
Shaper, 24" Potter & J., used... 750.

Write us for our complete list of Machine Tool Bargains.

### FOR SALE BY

#### Bennett Machinery Co.,

30 Church St., New York City

Boring mill, 31" Bridgeport, 2 hds.  
Lathe, 18"x8" Reed-Prentice, quick  
change, taper, double back geared.  
Lathe tur., 3"x36" Jones & Lamson.  
Miller, No. 2 Fox, plain.

Miller, No. 4 Brown & Sharpe, plain.  
Pipe machine, 8" E. C. & B.  
Planer, 54"x12" Pond, 4 heads.  
Planer, plate, 18" Niles.  
Shaper, 20" Walcott, bk. grd., crank.

### FOR SALE BY

#### Rosenfeld Machinery Co.,

942 W. Lake St., Chicago, Ill.

Bench drills, b. b., Leland-Gifford.  
Bench lathes, Pratt & Whitney screw  
cutting; Hardinge Bros.  
Chain hoists, 1 to 12 tons, Yale &  
Towne and Ford triplex.  
Cutters and hobs.  
Drills, high speed.  
Drill presses, all sizes.  
Gear hobber, Barber-Colman No. 12.  
Hand millers, Van Norman No. 1.

Lathe, 16"x8" Monarch, q. c., d. b. g.  
Milling mch., vert., Becker mod. C.S.  
Motors, a. c., all sizes, 3 ph., 60 cy.  
Motors, a. c., 3 ph., 25 cy., 7½ to 50 h.p.  
Punch presses, Niagara.  
Radial drill, 2½" American.  
Shaper, 16" Smith & Mills.  
Tumbling barrels, 2 compartments,  
6"x15" each, for small work.  
Turret lathe, 3½"x36" Acme.

Complete estimates furnished on transmission appliances.

We solicit your inquiries.

### FOR SALE BY

#### McCoy-Brandt Machinery Co.,

210-14 Penn Ave., Pittsburgh, Pa.

Air compressor, 8"x8" and 10"x10",  
with motors, 3 60-220 volts.  
Air compressor, 212 cu. ft., Chicago  
portable, oil driven.  
Boring mill, 48" Colburn, 2 heads.  
Boring mill, 10" Niles, 2 heads.  
Bulldozers, Nos. 2, 4, 6 and 30.  
Drills, radial, 5' Prentice, s. p. d.  
Drill, radial, 6' Prentice, belt drive.  
Forging machines, 2" and 3".  
Grinders, 12"x48" Cincinnati plain.  
Grinder, 10"x72" Norton pl., m. d.  
Grinder, Gisholt universal tool.  
Grinder, 36" Diamond wet tool.  
Grinder, 10x32" Ott universal.  
Grinder, No. 4 Gardner double disc.  
Lathe, 14"x6" Hendey, grd. hd., m. d.  
Lathe, 19"x14" LeBlond, grd. hd.  
Lathe, 24"x26" American, q. c. g., m. d.  
Lathe, 27"x18" L. & S., m. d., t. a.  
Lathe, 30"x18" L. & S., m. d., t. a.  
Lathe, 36"x20" Sidney, q. c. g., cone.  
Lathe, 42"x32" Amer., grd. hd., m. d.  
Millers, horiz., Nos. 3 & 5 Cincinnati.  
Miller, vertical, No. 0 Bickett.  
Millers, Nos. 2, 5C & 6 Becker vert.

Millers, vertical, No. 3 Brown &  
Sharpe, motor drive.  
Nut tappers, 10 spindle, rotary, cap.  
1½" nuts.  
Pipe machines, 12", 10", 8", 4" & 2".  
Planer, 30"x30"x8" N. B. P., 1 head.  
Planer, 36x36x12" Powell, 3 heads,  
like new.  
Planer, 30"x30"x8" Flather, 1 head.  
Press, No. 68 Bliss, double acting.  
Punch, 45" thrt., 1" thru 1", arch. jaw.  
Punch, 36" Cleveland 1½"x1", m. d.,  
arch. jaw.  
Punch, 24" Cleveland 1"x1", m. d.,  
arch. jaw.  
Punch, dbl. end, 20" throats, 1½"x1".  
Punch, 24" throat H. & J., 1½"x1".  
Rolls, bending, 12"x½" H. & J., m. d.  
Rolls, bending, 16"x½" Wickes, m. d.  
Shears, guil., cap. 2½" and 2" and 1".  
Shear, rotary bevel, cap. 1", m. d.  
Shear, rotary, cap. 1", with circ. att.  
Slotter, 12" Newton, crank, cheap.  
Turret lathe, 18" Libby, like new.  
Turret lathe, 3"x36" J. & L., s. p. d.

## SECOND-HAND MACHINERY

### FOR SALE BY

A. F. Strafer,

30 Church St., New York City

#### BORING MILLS, VERTICAL AND HORIZONTAL.

16'-32' Niles extension.  
10'-16' Betts extension.  
84" Niles-B.-P., motor drive.  
72" Niles, 2 hd., belt dr.  
60" N.-B.-P. vert., d. c., m. d.  
52" Niles-B.-P. rapid trav., d. c., m. d.

42" Bullard turret head.  
36" Bullard v. t. l.  
5" Detrick & H. No. 303, floor type.  
Landis No. 35, floor type horizontal.  
No. 3 Universal horiz., s. p. d.  
No. 2 Rochester horiz., 3" bar, s. p. d.

#### DRILLS, UPRIGHT AND RADIAL.

6' Cincinnati Bickford univ., s. p. d.  
6' Mueller plain, m. d.  
6' Baush, belt drive, new.  
5' Baush, belt drive.

4 1/2' Dreses, motor drive.  
4' Fosdick, gear box.  
No. 310 Baker, heavy duty.  
26" Sibley, sliding head.

#### GRINDERS

No. 16 Blanchard, motor drive.  
Springfield Brandes, 12x48" surface.  
Norton 10"x72" plain.

10"-36" Norton, nearly new.  
10"x24" Landis, self contained.  
10"x30" Webster & Perks univ.

#### LATHES

108"-60"x34', N.-B.-P., geared hd.  
72"-48"x35', Pittsburg, d. c.  
50"x30' Pittsburg, quick change.  
44"x24' Niles-P.-B., t. g., belt drive.  
36"x32' Niles-Bement, belt drive.  
36"x34' Putnam, g. h., q. c.

26"x26" American.  
24"x12" American.  
24"x10' LeBlond, q. c., & t. a.  
24"x10" American, new.  
20"x15" Sidney, q. c., d. b g.  
20"-38"x16" Rahn Larmon, slide gap.

#### TURRET LATHES.

28" Gisholt belt drive.  
34"x36" Cin'ti Acme flat, modern,  
geared head, chuck equipment.  
24" Gisholt, 6 1/2" hole thru spindle.

24" Steidle, new, half price.  
24"x26" Greenlee, chuck equipment.  
No. 3A Warner & Swasey, bar.  
2A Warner & Swasey, bar.

#### MILLING MACHINES.

No. 4 Cincinnati plain horiz., h. p.  
No. 4 Cincinnati h. power vertical.  
No. 3 Brown & Sharpe, pl. cone type.  
No. 3 Cincinnati vert., high power.

Kemp Smith No. 3 univ., cone type.  
No. 2 Cincinnati h. p. univ.  
30"x14" Ingersoll, 4 heads.  
36"x12" Ingersoll, 2 heads.

#### PLANERS.

150"x25', 4 heads, stand, belt drive.  
120"x25' Sellers, motor drive.  
72"x72"x18" B. B. P., electric drive.  
60"x60"x16" Gray, 4 heads.

54"x54"x16" Sellers, 4 heads.  
42"x42"x10" Cleveland open s., 3 hds.  
36"x36"x8" Sellers, 4 heads, belt dr.  
28"x28"x10" American, 1 head, b. d.

#### PIPE MACHINES AND BOLT THREADERS.

4" Saunders, belt drive.  
14" Little Giant, auto. head.  
14" National bolt cutter.  
2 1/2" to 10" Curtis & Curtis.

Jarecki 2 1/2", a. c. motor drive.  
2" Acme bolt, gear box.  
1 1/2" bolt, Wiley & Russel.  
2 1/2" Landis bolt threader.

#### PUNCHES AND SHEARS.

No. 6 Quickwork rotary.  
No. 10 Quickwork, 60" throat.  
No. 4 H. & J. double, 48", t. a., c. m.  
No. 2 H. & J. double angle.  
No. 6 H. & J. 60" thrt., a. c. motor.  
Pels combination, 1 1/2" capacity.

No. 5 H. & J., 48" t., a. c. motor.  
No. 4-A Quickwork, motor drive.  
Morgan & W. gate shear, 9', 1/2" cap.  
Pels type beam shear, 6" to 24" cap.  
Badger State 9C., 24" t., 1/2" d. e.  
Long & Allstatter No. 5, 24" t., s. e.

#### ROLLS.

No. 6 Hillis-Jones 25', 1" capacity.  
20" N.-B.-P., 18" top roll, latest.

7' Sellers, 1/2" cap., drop end.  
12' drop end, 7/16" capacity.

#### MISCELLANEOUS.

Air drills, Thor, Nos. 1 to 3, \$15 up.  
Air hammers, 2" & 6", \$12 and \$15.  
Beading & slitt'g mch., Quickwork.  
Brake, tinsmith's, 90".  
Gas engine, 15 h. p. Novo 2 c., new.  
Hammer, 3000 lb. Bell single frame.  
Hammer, 3000 lb. Bell double leg.  
Hammer, 600 lb. Erie, forging.

Header, Ajax 1 1/2", all steel.  
Jointer, 12" American.  
Saw, No. 6 Nutter & B., a. c. motor.  
Saw table, universal, American.  
Screw machines, automatic, all sizes.  
Surfacer, single, 30" American.  
Tapping attach., 1" Errington.

## SECOND-HAND MACHINERY

### FOR SALE BY

Machine Tools Sales Company

236 Commercial Trust Bldg., Philadelphia, Pa.

#### DRILLING MACHINES.

Sipp sensitive ball bearing.

3-spindle Avey sens. ball bearing.

2-spindle Avey sens. ball bearing.

#### LATHES.

24-26" C Libby turret lathe.

18"x6" Hendey engine lathe.

27"x10" American engine lathe.

No. 2 W. & S. hol. hex. tur. lathe.

No. 2-A W. & S. hol. hex. tur. lathe.

18" swing W. & S. Fox lathe.

#### MILLING MACHINES.

No. 2 Cincinnati universal.

No. 4 Cincinnati plain.

#### PRESSES.

DG-52 Ferracute str. side, 8" stroke.

C-1 Ferracute incl. flywh., 2" stroke.

Waterbury-Farrel No. 5 dial feed.

Henderson press on legs, 2" stroke.

Henderson inclin., dial feed, 2" str.

Waterbury-F. bench power presses.

#### SCREW MACHINES.

No. 0 Brown & Sharpe full auto.

No. 00 Brown & Sharpe full auto.

No. 00 B. & S. auto. cut-off mche.

No. 0 Index cross drilling attach.

No. 00 Index cross drilling attach.

No. 2 B. & S. hand screw machine.

No. 2 Garvin hand screw machine.

No. 1 W. & S. hand screw machine.

#### MISCELLANEOUS.

Bolt threader, No. 32 Wells Bros., 14" cap.

Boring, drilling and milling machine, No. 32 Lucas horiz.

Pipe machine, 10" Curtis & Curtis "Forbes."

Planer, 36"x36"x8" Bement Miles.

Screw cap threader, Waterbury-Farrel semi auto.

Shapers, 16" Hendey.

Truck, lift, type L Auto Trans. Co.

Truck, chain drive, type D Auto Trans. Co., with G. E. mercury arc rectifier.

### FOR SALE BY

J. E. Haetten & Co., Inc.,

50 Church St., New York, N. Y.

Specials.

Bolt cutter, 14" Acme, single spindle, 98%	\$ 450.
Drills, 36" Snyder, s. h., with tapping att., 98%, (2), each	600.
Drill, 14-spindle Baush, 14" spindle, 1" cap., 30" circle, 98%	500.
Grinder, 6x32 No. 11 B. & S. plain, belt drive, 80%	400.
Grinder, 6x32 Norton plain, belt drive, 80%	400.
Grinder, No. 4 Detroit heavy duty centerless, 90%	900.
Grinder, 10x36 Norton plain, serial No. 4068, 80%	650.
Grinder, 10x72 Norton plain, serial No. 6278, 90%	1,000.
Grinder, 24" Badger double disc, press and tables, 100%	450.
Grinder, 16x48 Landis crankpin, late type, 95%	1,600.
Lathe, 14"x6" Hendey, q. c. g., taper att., fine order	400.
Lathe, 20"x12" Johnson, geared head, taper, q. c. g., 90%	700.
Lathe, 24"x12" LeBlond, d. b. g., q. c., 90%	1,400.
Lathe, 18"-36"x5" Fay & Scott sliding bed gap, 90%	800.
Mill, 51" Bullard vertical, 2 heads, g. l., 90%	1,500.
Miller, No. 8 Becker double head Lincoln, 14x48 table, 95%	300.
Miller, 36"x24"x10" Newton slab, 2 vertical heads, 90%	2,000.
Planer, 26"x10" Putnam, 2 heads, used 30 days, 99%	900.
Planer, 42"x42"x14" American, 3 heads, arranged for motor, 90%	1,800.
Planer, 45"x48"x30" Putnam, 4 heads, used 3 months	3,500.
Press, 36" No. 784 Bliss, b. g., twin geared, 70,000 lbs., 98%	7,500.
Radials, 3" Carlton sensitive, b. d., tapping att., 95%, (2), each	450.
Radial drill, 4" American semi-universal, s. p. d., 90%	1,500.
Riveter, Kobert electric, 1/2" cold rivets, 98%	2,000.
Shapers, 16" Davis, b. g., gear box drive, 100%, (4), each	600.
Soda kettle, 5-gallon, for washing machine parts, 99%	40.
Threading lathes, 14"x10" automatic, 90%, (2), each	100.
Turret lathes, 2x24 J. & L., geared head, excellent, (2), each	350.
Turret lathe, No. 1B Foster universal, lot of extra parts, 95%	750.
Thread miller, No. 6 Lees-Bradner, 95%	600.

## SECOND-HAND MACHINERY

### FOR SALE BY

Humboldt Machine Works,

Humboldt, Tenn.

#### PLANER

32"x8' Lodge & Davis planer, 2 heads, power head raising provision; condition 90% good; has chuck. Price for quick sale, \$900.

### FOR SALE BY

The Strong, Carlisle & Hammond Co., Cleveland, O., Detroit, Mich.

#### ENGINE LATHES.

12"x 5' Hendey, c. r., q. c. g., with pan bed.  
12"x 6' Seneca Falls, c. r. and t. a., with relieving att.  
14"x 6' LeBlond, l. c. g. and chuck.  
14"x 6' Hamilton.  
14"x 6' Monarch, c. r., standard.  
14"x 8' Monarch, c. r., stand. pattern.  
15"x 6' South Bend, c. r., complete.

16"x 6' South Bend, c. r., complete.  
18"x 8' Prentice c. r., l. c. g., chuck.  
18"x 8' Monarch, 3-step cone, d. b. g., q. c. g.  
18"x 8' Schumacher-Boye & Emmes, c. r., 5-step cone, s. b. g., q. c. g.  
18"x10' Star, 4-s. c., s. g., with 18" 4-jaw ind. chuck.

#### TURRET LATHES AND SCREW MACHINES.

No. 2-A W. & S. g. h. tur. lathes.  
No. 3-A W. & S. g. h. turret lathe.  
11" Acme screw mche., p. f. to tur.  
26" Gisholt heavy duty turret lathe.  
2"x24" Jones & L. g. h. flat turret.  
No. 00 Brown & Sharpe auto., (7).  
No. 0 Brown & Sharpe auto. (2).  
No. 2 Brown & Sharpe auto. (2).  
1" Biggs, p. h., a. c. & b. f.

No. 2 Warner & S. p. h. screw mche., a. c. & b. f., p. f. to turret.  
No. 4 W. & S., p. h., a. c. & b. f.  
No. 2 W. & S., p. h., a. c. and b. f. (3).  
No. 4 W. & S., g. f. h., a. c. and b. f. (4).  
18" Libby, factory rebuilt.  
No. 2-G B. & S. automatics (3).  
No. 2 B. & S. turret forming (2).

#### DRILLING MACHINES.

20" W. F. & John Barnes, stationary head, b. g. and p. f. (2).  
24" Baker heavy duty.  
24" Barnes "Camel Back," b. g., p. f.  
4-spindle Leland-Gifford, h. s., b. b., with p. f. to each spindle.  
2" Mueller plain radial with t. a.  
6' arm Western radial, with tap. att., arranged for motor drive.  
20" Superior, stationary hd., p. l. f.  
20" Hamilton, w. and l.

20" W. F. & John Barnes, stationary head, p. l. f., (2).  
12" Mechanics, friction driven.  
6-sp. 12" Leland-G., h. s., b. b. (6).  
12" 3-sp. Leland-G., h. s., b. b. (4).  
14" 3-sp. Leland-G., h. s., b. b. (3).  
14" 4-sp. Leland-G., h. s., b. b. (3).  
14" 2-spdl. Avey, h. s., b. b., (2).  
14" 3-spdl. Henry & W., h. s., b. b.  
14" 4-spdl. Henry & W., h. s., b. b.

#### MILLING MACHINES.

No. 0 Bickett, hand, bench type (3).  
Toledo hand milling machines (2).  
No. 24 K. & T. vertical, arranged for motor drive.

No. 2-B B. & S. plain, constant s. dr.  
No. 14 Rockford plain, with div. hd.  
No. 24 Ohio plain b. g. complete.  
No. 1-Y Brown & Sharpe plain.

#### GRINDERS.

No. 10 B. & S. plain, (2).  
No. 6-A Bryant internal.  
No. 2 B. & S. surface.  
No. 3 Brown & Sharpe universal.  
LaSalle combination pl. and surface.

No. 1 LeBlond cutter grinder.  
Type "DE" Hisey-Wolf internal.  
No. 11 B. & S. plain grinders, (5).  
Plain emery wh'l stand with column.

#### SHAPERS AND PLANERS.

16" Hendey friction, (2).  
16" Ohio plain crank.  
18" Walcott plain crank.

24" Queen City heavy duty bk. grd.  
22"x22"x 5' Putnam planers (2).

#### METAL CUTTING TOOLS AND SQUARING SHEARS.

Higley cold saw.  
3" new Davis cutting-off machine.

30" Niagara foot power squar. shear.

#### GEAR CUTTERS AND HOBBERS.

26" & 36" No. 3 Brown & S. auto.  
No. 13 Brown & Sharpe auto.

No. 12 Barber-Colman hobbers.  
No. 12 B. & S., bevel, (2).

#### HAMMERS.

Quickwork body hammer.

## SECOND-HAND MACHINERY

### FOR SALE BY

#### A. M. Stoehr Machinery Co.,

Blue printing and drying machine.  
Bolt cutters, 3 & 6-spindle Acme.  
Boring mills, 42" Baush; 54 & 60"  
Niles; all have 2 heads, and others.  
Compressors, 12 different sizes.  
Drill presses, 2 & 4 spindle Henry  
& Wright; 4-spindle Barnes, b. g.,  
p. f., 14", and others.  
Gear hobbors, cutters: 12" Cincinnati;  
48" & 60" Gould & E.; 36" Fellows  
gear shaper, and others.  
Grinders, Heald piston ring (4);  
No. 3 LaSalle plain and surface;  
3x18" Norton, and others.  
Hammer, 500 lb. Beaudry, & others.  
Header, No. 2 Manville.  
Lathes, 22" to 44" McCabe; 18x8  
Barnes, heavy duty; 16x8 Flather;  
15 & 24 spinning, and others to 60".  
Milling mchs., No. 25 Becker plain;  
No. 6 Bristol hand; No. 0 Rockford  
plain; No. 2 Van Norman duplex;  
No. 3 Thurston dieing, and others.

#### 560 W. Adams St., Chicago, Ill.

Oil extractors, centrifugal, (8).  
Pipe machines, 2" & 6" Jarecki.  
Press, 500 lb. Elmes straightening  
press.  
Punch presses, No. 16 Bliss horning;  
No. 10 Torris Wold, o. b. i.; Nos.  
48 & 50 Crosby; No. 69 Stoll s. s.;  
No. 1 L. & A.; 4" cap., will punch  
1 1/2 thru 1", and others.  
Punch & shears, No. 4 L. & A., d. e.,  
4" thru 4"; No. 14 W., d. e., 15"  
throat, and others.  
Riveters, No. 5-A High Speed.  
Saws, 9x9 Sterling high speed.  
Screw machines, Nos. 2 & 3 Foster  
(12); Nos. 52 & 53 Acme, others  
plain and automatic.  
Shears, Pittsburgh alligator, 1 1/2".  
Welders, both spot and butt.  
Wire strai't'g mche., 3/16" Shuster;  
1" & 2" Wells, and others.  
Also other machinery.

### FOR SALE BY

#### Peninsular Machinery Co., 429-31 E. Jefferson Ave., Detroit, Mich.

#### LATHES.

13"x 5' South Bend, l. c. g.  
13"x 5' Champion, l. c. g.  
13"x 5' Blount speed lathe.  
14"x 6' Prentice, l. c. g., (2).  
14"x 6' Carroll-Jamieson, (3).  
14"x 6' Flather, l. c. g.  
14"x 6' Reed, l. c. g., (4).  
14"x 6' Rockford, l. c. g.  
14"x 8' Monarch, l. c. g., taper.  
16"x 8' Bradford, l. c. g.  
16"x 8' LeBlond, quick change.  
18"x8' Monarch, q. c.  
21"x11' LeBlond, all geared, (2).  
28"x10' LeBlond crankshaft, (2).  
3 1/2"x36' Lo-Swing.

#### DRILLING MACHINES.

3-spd. Henry & Wright, h. s., b. b.  
23 1/2" Sibley all-gearred, p. f., with tap.  
22 1/2" Sibley all-gearred, p. f.  
23" Rockford, s. h., with taper.

#### MILLING MACHINES.

No. 0 Steptoe, b. g. and p. f.  
No. 6 Farwell q. c.  
Briggs type A, (2).  
No. 12 Brown & Sharpe.  
No. 32 Kemp Smith.  
No. 33 Kemp Smith plain.  
No. 1 1/2" Cincinnati plain.  
12" Cincinnati plain manufacturing.  
No. 2 Brown & Sharpe plain.  
No. 3H LeBlond plain, cone type.  
No. 2 LeBlond all geared plain.  
No. 2 Kemp Smith all geared vert.

#### TURRET SCREW MACHINES.

1 1/2" Defiance, f. h.  
2" Milholland, f. h.  
2 1/2"x26' Pratt & Whitney, a. c.  
No. 4 Warner & S. f. h. turret lathe.

#### GRINDERS AND POLISHERS.

10x24 Landis plain.  
No. 24 Gardner vertical.  
No. 70 Heald internal.  
No. 50 Heald cylinder.  
No. 210 Heald magnetic.  
20" Blount wet grinders, (2).  
No. 4 Webster & Perks polishing.  
Bennett & O'Connell dbl. sp. pol.  
No. 23-B Valley City disc.  
No. 220 Badger automatic.

#### MISCELLANEOUS.

Band saw, 6" Napier.  
Centers, bench, Brown & Sharpe.  
Cutting-off mch., 4" Hurlbut-Rogers.  
Filer, No. 2 Cochrane & Bly.  
Gear tester, bevel, Gleason.  
Hammer, drop, No. 5 Williams-W.  
Lapping mchs., Bethel-Playe, (2).  
Metal cutter, No. 1 Gray.  
Screw slotter, No. 1 National Acme.  
Tooth round's, 12" Rochester aut. (2).  
Tumbling barrels, No. 3-S Globe, (2).



## SECOND-HAND MACHINERY

### FOR SALE BY

**Botwinik Brothers,**

**67 Water St., New Haven, Conn.**

#### MILLING MACHINES

15 Hendey No. 24 Lincoln type milling machines, complete with arbors, shafts, etc.; good working condition. Price \$100.00 each, net, f. o. b. cars, New Haven, Conn.

Wire, write or phone.

### FOR SALE BY

**Herman L. Winterer,**

**943-53 N. Front St., Philadelphia, Pa.**

#### LATHES.

43"x17' 4" Bement-Miles.  
37½"x14" Johnson d. b. g., q. c. f., t. a.  
32"x12" Pittsburgh, heavy duty, q. c. g.  
27"x12" Bullard.  
26"x11" Wickes, q. c. g.  
23"x10" Niles, q. c. g.  
25"x14" Hendey, q. c. g., taper attachment, oil pan, (2).  
24"x14" Porter.  
21½"x5" LeBlond.  
20"x5' 6" Walcott, d. b. g., c. g., (2).

20"x 8' Whitcomb Blaisdell, q. c. g.  
19"x10" Draper, patent head.  
18"x 8' Davis, q. c., d. b. g.  
18"x 7' Chard, d. b. g., semi q. c. g.  
18"x6' to 8' lathes, (6).  
16"x 8' Greaves & Klusman, b. g., t. a.  
14"x 8' Filsmith, q. c. g.  
14"-22"x6" Barnes extension gap.  
10"x4" Summit, b. g., sliding head.  
And many others.

#### TURRET LATHES.

3½"x28" Pond, triangle.  
3x36" Pratt & Whitney, hollow hex.  
20" Acme flat, 2½" h. s., motor drive.  
20x7' 6" Pratt & Whitney, back grd.  
20x7' Bridgeport, 2½" h. s.  
19"x7" Fay & Scott, back grd.  
No. 22½ Garvin Monitor.

No. 3 Kempsmith.  
14"x 6' Warner & Swasey.  
16"x6" Johnson, back grd.  
No. 3 Bardons & Oliver back grd.  
14½"x5' 3" Pratt & Whitney, (2).  
No. 3 Foster Kimball.

#### DRILL PRESSES.

42" Gang radial, s. p. speed box.  
40" Barnes horizontal radials, (2).  
36" Bickford radial, circular base, motor driven.  
34" Barnes, s. h., geared face, comp. table.  
30" Davis & Egan radial.

29" Rockford, q. c. g. feed, (2).  
21" Aurora.  
20" Champion, stationary head.  
20" Excelsior, stationary head, (2).  
Henry & Wright sensitive.  
Plain drills, all sizes.  
Drill presses, assorted sizes.

#### MILLING MACHINES.

38"x6" Ingersoll horizontal slab.  
No. 5 Cincinnati, table 9½"x30½".  
No. 15 Garvin, table 12x42".  
No. 3 Becker Brainard, table 12x40".  
No. 3 Hendey-Norton, q. c. g.

No. 5-C Becker vert., rotary table.  
No. 5-B Becker vert., table 14x43.  
No. 3 Becker vert., rotary table.  
No. 7-H Lincoln type Becker miller.  
No. 1 Milwaukee plain.

#### PLANERS AND SHAPERS.

12"x10"x25" Sellers planer, 4 heads.  
30"x30"x8" Hewes & Phillips planer.  
30"x30"x8" Putnam planer.  
26½"x26"x 6" Hendey planer.

24"x24"x6" Sellers planer.  
48" Morton draw-cut shaper.  
39" Pedrick & Ayer, open side.  
14" Warren shaper.

#### MISCELLANEOUS.

Boring mill, car wheel, 60" Newton.  
Boring, drilling and milling machine, 17½" Bement Niles horizontal.  
Grinder, 13½"x5" Landis universal.  
Grinder, No. 1 Brown & Sharpe univ.  
Grinder, disc, No. 17 Besly.  
Grinder, disc, No. 1 Besly.  
Hammer, 15 lb. Bradley helve.  
Hammer, 25 lb. Little Giant, m. d.  
Hammer, 40 lb. Bradley, helve.  
Hammer, 60 lb. Hotchkiss.  
Hammers, 60 lb. Bellefonte upright; 2 Hammer, 500 lb. Merrill board drop.

Hammer, 750 lb. Merrill board drop.  
Hammer, 1250 lb. Bell steam.  
Keyseater, 18" stroke Morton.  
Molding machine, 24" Taber, with roll over.  
Punch presses, all sizes, (55).  
Punch & shear, Industrial Wks. d. e., capacity 4" in 4"; squaring 4"x6".  
Riveter, air, 6" gap Allen, cap. 1½".  
Riveter, air, 25" gap Allen, cap. 1½".  
Slotter, 14" Niles.  
Tooth rounding mche., Schuchardt & Schutte.

Large assortment of General Machinery. Send for Complete Price List.

## SECOND-HAND MACHINERY

### FOR SALE BY

**B. L. Saltzman**

**524-526 W. Van Buren St., Chicago, Ill.**  
**LATHES.**

18"x8" Flather.  
9"x5" Rockford.  
10"x4" Reliable.

Garvin.  
Pratt & Whitney turret lathe, 2x26.  
Pratt & Whitney turret lathe, 1.

### MILLING MACHINES.

Kemp Smith No. 1 miller.

Hendey-Lincoln miller.

### TINNERS' TOOLS.

Niagara No. 136 punch & shear.  
Niagara No. 536 gap shear, 36".  
10'-16 gauge steel brake.

Rollers.  
Slitting shears.  
30, 36 & 42"-10' square shears.

### MISCELLANEOUS.

Band saw, metal, 32".  
Motors, 1/2 h. p., a. c., 810.  
Planer, 24"x24"x6' Whitcomb.

Shaper, 16" Steptoe.  
Shaper, 24" Rockford.

Punch presses, drill presses, grinders, back saws, a. c. and d. c. motors, leather belting, pulleys, shafting and hangers.

### FOR SALE BY

**Reliance Machinery Sales Company**

**Brighton Road at Pennsylvania Ave.,**

**Pittsburgh, Pa.**

Bolt cutter, Acme 2" class "A", 1/4" to 2".  
Boring mill, 24" Bullard, rapid prod.  
Boring mills, 30" Bullard, 1 head.  
Boring mill, 34" Colburn, 1 head.  
Boring mills, 42" Bullard, 2 hds., (2).  
Boring mill, 72" Niles vert., 2 hds.  
Brake, 60" Dreis & Krump, cap. 14 ga., m. d.  
Bulldozer, No. 1 Williams & White.  
Bulldozer, No. 5 Williams & White.  
Bulldozer, No. 6 Williams & White.  
Die slotter, 3 1/2" stroke, Garvin.  
Drill, 24" Hoefer, sliding head.  
Drill, 25" Weigel, sliding head.  
Drill, 36" Snyder, sliding head.  
Drill, 2' 6" Carlton high speed radial.  
Drill, 3' Mueller radial, g. b., s. p. d.  
Drills, Amer. 4 & 5' radial, g. b., s. p. d.  
Drill, No. 1 Avey ball bearing, 3-sp.  
Gear cutter, 36"x10" G. & E., s. p. d.  
Gear cutter, 60"x12" G. & E., s. p. d.  
Grinder, 6"x32" Norton plain cyl.  
Lathe, 12" 6" Seneca Falls.  
Lathe, 14" 6" Seneca Falls, q. c. g.  
Lathe, 14"x 6" Hendey, tie bar.  
Lathe, 14"x9" Whitcomb-Blaisdell.  
Lathe, 16"x8" Hendey, tie bar.  
Lathe, 17"x8" Sidney, hvy. duty, q. c. g.  
Lathe, 18"x10" Lodge & S., q. c. g., s. p.  
Lathe, 18x10" Reed, q. c. g., d. b. g.  
Lathe, 24"x12" Lodge & S., q. c. g.  
Lathe, 30"x12" Johnson, triple grd.  
Lathe, 34"x12" LeBlond, trip. grd.  
Lathe, 36"x16" American, grd. hd.  
Miller, No. 1 Steptoe, with div. hd.  
Miller, No. 1 U. S., complete.  
Miller, No. 2-A B. & S. univ., s. p. d.  
Miller, No. 2 Cincinnati, p. vert.  
Miller, No. 2 Cincinnati plain, v. a.  
Miller, No. 3 Hendey plain.  
Miller, No. 29 Oesterlein universal.

Millers, Sellers, Lincoln type, (2).  
Miller, model "B" Becker, vert., s. p. d.  
Miller, model "C" Becker vertical.  
Nut tapper, 2" National, 6-spindle.  
Pipe machine, 1/2" to 2" Armstrong.  
Pipe machine, Jarecki, cap. 1" to 4".  
Pipe machine, Merrill, 1 1/2" to 6".  
Pipe machine, Merrill, 2 1/2" to 12".  
Planer, 24"x24"x 6' Gray, 1 hd.  
Planer, 30"x30"x10' Woodward & P.  
Planer, 36"x36"x 8' Cincinnati, 1 hd.  
Planer, 72"x72"x18" D. & H., open-side, m. d.  
Press, No. 4 Toledo, o. b. i., 2 1/2" str.  
Press, No. 5 Toledo, o. b. i., 3" str.  
Press, No. 10 Bliss, reducing, 4" str.  
Press, No. 23 Stoll, horning.  
Press, No. 52 Bliss, s. s., 2" stroke.  
Presses, Nos. 61 & 62 Bliss, o. b., f. w.  
Press, No. 74 Consolidated, geared.  
Press, No. 87 Niagara, screw.  
Press, Ferracute DD2, o. b. i., cam.  
Press, No. 65 Consolidated, 5" str.  
Press, No. 168 Toledo toggle.  
Press, No. 305 Bliss straight sided.  
Punch, Reade s. e., 1/4"x 1/4", arch jaw.  
Reduction gear, Foote, 50 to 1.  
Saw, No. 8 Marvel metal band.  
Saws, American metal sw., m. d., (2).  
Screw mche., No. 2 W. & S., pl. head.  
Screw machine, No. 6 Foster, g. f. head, power feed.  
Shaper, 20" Cincinnati b. g. crank.  
Shaper, 24" Springfield, b. g. crank.  
Shear, No. 2 Quickwork rotary.  
Shear, 72" Niagara sq., cap. 14 ga.  
Shear, 96" Stoll, 16 gauge.  
Shear, squaring, power, 20 ga.  
Tooth rounder, 12" Rochester.  
Wire straightener, No. 1 Shuster, 1/2"x8" 6".

Our warehouse is full of bargains. What have you for sale?

## SECOND-HAND MACHINERY

### FOR SALE BY

**Clark Machinery Co., 1235-45 St. Clair Ave., Cleveland, O.**

Automatic, National Acme No. 52.

Drill, single spindle Avey.

Drill, 20" plain, wheel and lever.

Lathe, 16"x6" Lodge & S., q. c. g.

Lathe, 20"x10" Porter.

Miller, No. 2 Cincinnati universal.

Millers, Nos. 2 & 5 Becker vertical.

Planer, 42"x42"x8' Gray, 2 heads.

Planer, 24"x24"x6' Whitcomb.

Screw machine, No. 6 Warner & S.

Shaper, 24" Ohio, b. g.

Shaper, 16" Ohio, b. g.

Machine tools for every purpose. Send us your inquiries.

### FOR SALE BY

**Tubor, Velick & Co., Inc., 628-630 W. Lake St., Chicago, Ill.**

**Telephones: Monroe 4199-6813. No Branches**

#### PUNCH PRESSES.

No. 3 Walsh.

No. 4 American Can.

No. 7 Beatty, cap. 1 1/2" in 1".

No. 15 Torris Wold.

Perkins punch presses, 1/4" str. (20).

Nos. 13 & 15 single end punches.

Long & Allstatter horn punch, capacity 1 1/2xl.

#### DRILL PRESSES.

14" Excelsior.

20" b. g., p. 1., new, \$130.

20" drill presses (40), each \$40.

26" Weigel.

30" Reed-Prentice.

Demco high-speed drills.

Bench type drills.

#### MILLING MACHINES.

No. 2 LeBlond.

No. 2 Cincinnati vertical.

No. 2 Cincinnati universal.

No. 3 Kempsmith.

A number of hand millers.

#### LATHES.

11"x 5' Sterling.

15"x 8' Sidney, q. c.

16"x 8' Sidney, q. c., (2).

16"x 6' Monarch q. c.

16"x 6 1/2' Canedy-Otto.

16"x 8' Hendey, q. c., taper att.

17"x " Sidney, q. c.

19"x10' Sidney, q. c., (2).

20"x 8' Lodge & Shipley, geared head, s. p. drive.

24"x10' Canadian, q. c., d. b. g., (3).

25"x10' Sidney.

Dalton Six.

#### PLANERS.

24"x24"x6' Pond.

24"x24"x 8' Putnam.

30"x30"x 8' Fitchburg.

36"x36"x 7' Flather, 2 heads.

#### SHAPERS.

14" Steptoe.

16" Milwaukee.

16" Whipp, b. g.

24" Rockford.

24" Kelly.

#### SCREW MACHINES.

No. 2 Smith, hand.

No. 2 & No. 3 Foster.

#### GRINDERS.

No. 2 Manhattan surface.

Gardner No. 2 & No. 6 disc grinders.

No. 14 Besly, disc.

10x36 Thompson, new.

Emery grinders, #2 and up.

#### WOOD-WORKING MACHINERY.

Band saws, 36" Famous, new, (10).

Boring mills, Andrew, (3).

Glue jointer, Falls.

Jointers, 4" D. C. Wallace.

Planer, 30" Berlin.

Saw table and jointer combined, portable.

Shapers, double spindle, Whitney and Fay.

Swing saws, Porter, (4).

#### MISCELLANEOUS.

Buffers, U. S. and Westinghouse,

5 h. p., b. b.

Cold saw, No. 20 Lea-Simplex.

Hack saws.

Keyseaters, Davis.

Lift trucks, Barrett, 1 ton cap.

Motors, a. c. and d. c.

Punch & shear, No. C Cleveland.

Paper cutter, 38" Oswego, direct driven, a. c. motor.

Radial drill, 3 1/2' Canedy-Otto.

Radial drill, 3 1/2' Cin'ti Bickford.

Time clocks, International.

Trucks—1,000 factory trucks.

Woodworking machines.

Leather belting. Pulleys, shafting and hangers.

## SECOND-HAND MACHINERY

### FOR SALE BY

**J. L. Lucas & Son, Inc.,** 3 Fox St., Bridgeport, Conn.

#### AUTOMATIC SCREW MACHINES.

10 Practically new 3-4" model B Cleveland Automatic screw machines, serial numbers 28,000. Write for photograph and full description.

### FOR SALE BY

**W. P. Little Co.,** West 9th & Front Sts., Cleveland, Ohio

#### PUNCH PRESSES.

No. 1 Perkins bench, on stand. No. SG-55 Ferracute double crank,  
No. 18 Bliss, o. b. i. No. 3 Long & Allstater, dbl. end,  
No. 5 Michigan, o. b. i. No. 14 Williams & White.

#### SHAPERS.

18" Wallcott b. g. crank. 20" Milwaukee b. g. crank.

#### RADIAL DRILLS.

3' Aurora plain. 4' Gang plain.

#### TAPPING MACHINES.

No. 1 Garvin automatic. Rickert & Shafer radial tapper.

#### BAND SAWS.

30" Thompson, metal. 36" Crescent, wood.  
30" Clement, wood. 36" White, wood.

#### GRINDERS.

No. 2 Oesterlein tool & cutter. No. 3 Modern universal.  
No. 75 Heald internal. No. 6 Bryant internal.  
14" Pratt & Whitney surface. 16" Heald rotary surface.

#### MISCELLANEOUS.

Bolt cutter, 2" Reliance. Miller, No. 13 Garvin.  
Broach, 3-A LaPointe Hudson. Screw mche., Brown & S. No. 1 auto.  
Hammer, 250 lb. Morgan steam. Spline miller, 2" Pratt & Whitney.  
Hammer, 80 lb. Bradley upright. Turret, No. 4 Warner & Swasey.  
Miller, 18" Cincinnati. Turret, No. 6 Warner & Swasey.

Partial list. Send us your inquiries. 150 other machine tools in stock.

### FOR SALE BY

**The Randle Machinery Co.,** 1723 Powers Street, Cincinnati, Ohio

#### ENGINE LATHES.

14"x 6' Lodge & S., q. c.....	\$ 400.	24"x14' Lodge & Shipley, q. c. \$1,500.
16"x 6' Flather, loose change.	275.	25"x12' hvy. duty LeBlond, q. c. 1,250.
16"x 8' LeBlond, loose chnge	350.	30"x12' heavy duty LeBlond,
24"x 8' Schumacher & Boye,		quick change.....
loose change.....	500.	48"x24' Niles, loose change,...

#### PLANERS.

32"x32"x14' American, 2 heads.....	\$1,250.
36"x36"x14' American, 2 heads.....	1,350.
36"x36"x18' Niles, double housing, each housing equipped with 2 rail heads, motor drive.....	1,500.
42"x42"x26' Cincinnati, 2 heads.....	2,250.

#### MISCELLANEOUS.

Bolt cutter, Acme 4" sgl. hd....	\$ 750.	Radial drill, 6' Niles full univ.,	
Boring mill, 8' Niles, belt dr.	1,500.	d. c. motor dr., with motor..	\$ 750.
Drill press, 45" upright, back		Shaper, 12" Pratt & Whitney	
geared, power feed.....	300.	crank, traveling head.....	300.
Drill press, 24" Aurora up-		Shaper, 29" Smith & Mills,	
right, back gear, pwr. fd....	275.	back grd. crank, late type..	800.
Grinder, No. 60 Heald cylinder	650.	Shaper, 16" Barker b.g. crank,	
Hack saw, Kwik Kut, power,		new.....	650.
14" blade.....	50.	Shaper, 28" Barker plain crank	300.
Miller, No. 3-B Brown & S.		Turret lathe, 28" Gisholt, d.c.	
plain, single pulley drive....	1,000.	motor drive, with motor.....	600.
Miller, No. 3 Cincinnati pl....	800.		

Many other bargains. Send us your requirements.

## SECOND-HAND MACHINERY

### FOR SALE BY

**Brown Machinery Co., • • 2323 N. 9th St., St. Louis, Mo.**

Automatic, Cleveland 2", model A.	Price.....	\$ 750.
Drill & tapper, Barnes 26", all geared, good condition.	Price.....	300.
Drill, Baush No. 3 multiple, cap. 30 spols., rectangular hd. 20x40".	Price.....	1300.
Grinder, No. 14 Gardner, b. b., disk, dry, 20" disks, good cond.	Price.....	400.
Grinder, No. 6 Besly two-spindle disk, 20" disks.	Price.....	350.
Grinders, three No. 2 Gardner single spindle, double disk, with universal tables; good condition.	Price, each.....	175.
Grinder, LaSalle automatic surface, good condition.	Price.....	275.
Grinder, No. 12 B. & S. 8x36" pl., for wet grinding; good condition.	Price.....	450.
Grinder, No. 1 Brown & Sharpe universal, 10x24; good condition.	Price.....	375.
Grinder, No. 14 Besly single spindle ring wheel.	Price.....	400.
Lathe, 18" x 8' Lodge & S., q. c. g., d. b. g.; good condition.	Price.....	475.
Lathe, 16" x 9' Lehmann, d. b. g., q. c. g.; good condition.	Price.....	475.
Lathe, 26" x 14' Hamilton, q. c. g., d. b. g.; good condition.	Price.....	1200.
Miller, No. 2 Cincinnati b. g. plain, 28x10x19; good condition.	Price.....	500.
Miller, No. 1B Fox, hand & pwr. fd., 18x6x14; new, never used.	Price.....	400.
Polishing & buffing machines, five New Britain drop head, good condition.	Price, each.....	50.
Punch & stake riveter, No. 3 Hilles & Jones 60" throat, rapid action; cap. full depth throat 4" in 7/16"; 16,000 lbs.; two stakes.	Price.....	1500.
Screw machine, Wood No. 4 tilted turret.	Price.....	500.
Shear, Niagara 8', 18 ga., foot power, square, splendid condition.	Price.....	275.
Shear, Marshalltown No. 134 rotary splitting, cap. 4" plate; 4' throat; arranged for motor drive. Like new.	Price.....	750.

Many other bargains. Write for List No. 124.

### FOR SALE BY

**Fitzsimmons & Cole Machinery Company**

**1208 House Building,**

**Pittsburgh, Pa.**

Air compressor, 10"x12", 164 cu. ft.	Lathe, 27"x10' Lodge & S., q. c. g.
Air compressor, Ingersoll, 1180 cu. ft.	Lathe, 50"x34' Pittsburgh.
Bending roll, angle, 4"x4"x4"	Lathe, 56"x16" American engine.
Bending rolls, No. 5 H. & J. 12"x4"	Lathe, axle, No. 3 Niles.
Bending rolls, 6"x4"	Miller, No. 3-A Garvin plain.
Bolt cutters, 1 1/2" to 4" Landis.	Miller, No. 4 Brown & S. universal.
Borer, car wheel, 48" Pond.	Pipe machines, 2" to 12".
Boring mill, 30" Bullard turret.	Planers, 30" to 12".
Boring mill, 36" Niles.	Planer, rotary, 48" Newton.
Boring mill, 42" King, m. d.	Press, No. 20 Bliss, o. b. i., 2" str.
Boring mill, 52" King, m. d.	Press, No. 37 1/2 Bliss straight side,
Boring mill, 60" Betts, 2 hds., m. d.	6" stroke.
Boring mill, 84" Bullard.	Press, wheel, 300-ton Putnam.
Boring mill, 144" Pond, 2 heads.	Punch, multiple, 84" Cleveland.
Drill press, 20" Barnes camel back.	Punch & shear, Cincinnati, 4" thru 4 1/2".
Drill presses, 24" to 36".	Punch & shear, No. "A" L. & A., 2"
Drill press, 1-D Colburn.	thru 1 1/2".
Drill, radial, 5' Prentice, s. p. d.	Punch & shr., H. & J., 1 1/2" thru 1 1/2".
Engine, oil, 50 h. p. International.	Punch & s., Pels, type RBLUE F-16.
Flanger, McCabe, 1/2" capacity.	Riveter, 70-ton Hanna, 18" reach.
Gear cutter, 36" Newark spur.	Sand blast, MacLeod, 36"x36".
Gear cutter, No. 13 Brown & Sharpe	Shaper, 24" Gould & F., bk. grd.
spur and bevel.	Shear, angle, 8"x8"x1 1/2" L. & A.
Gear shaper, 36" Fellows.	Shear, guillotine, No. 3 Hilles & J.
Gear planer, 24" Gleason bevel.	Shear, rotary, Quickwork, 60" th'rt.
Grinder, Landis crankshaft, 16"x48".	14 gauge.
Grinder, Landis crankshaft, 16"x68".	Straightener, 30" Waterbury-F. 3".
Grinder, Landis plain, 12"x52".	Testing machine, 100,000 lb. Olsen.
Hammer, 200 lb. Bradley upright	Turret lathe, No. 2-A Warner & S.
helve.	Turret lathe, No. 4 Warner & S.
Hammers, 600 lb. to 6000 lb.	Turret lathe, 24"x6" Gisholt.
Hammers, 800 lb. Merrill board drop.	Welder, butt, Thompson, cap. 1 1/2" rd.

## SECOND-HAND MACHINERY

### FOR SALE BY

**M. A. Wertman,** - - - **505 Superior Bldg., Cleveland, Ohio**

Amplifying gauge, American, 98% new, extra table.  
Grinder, Ingersoll cutter, 100% new, in original crate.  
Grinder, No. 1 Wilmarth & Morman surface, 90%.  
Lathe, 14"x6" Hendey, taper attach., two chucks, serial above 19,000.  
Presses, No. 206-C Toledo, geared, 90%. (2).  
Presses, No. 68 D. H. Stoll, s. s., geared, with all steel frames, (2).  
Swaging machine, No. 3 Etna, 1 1/2" capacity.

### FOR SALE BY

**Syracuse Supply Company,** **314 W. Fayette St., Syracuse, N. Y.**

Guaranteed New Machines in original crates at prices below list:

Crucible, FD-104 Hoskins.	Lathe, 16"x6" Monarch.
Drills, 21" Canedy-Otto (2).	Miller, No. 4 LeBlond.
Drills, 20" Buffalo (4).	Miller, 42" type "B" Briggs.
Grinder, Churchill internal.	Pipe machine, No. 70 Forbes.
Lathe, 14"x6" Hamilton.	Screw mchs., No. 4 W. & S., g.f.h., (3).
Lathe, 16"x8" Hamilton.	Slotter, No. 3 Rhodes.
Lathe, 10"x8" Monarch.	Straightener, No. 2 1/2 Corey.
Lathe, 14"x6" Monarch.	Tilted turret, No. 4 Wood.
Lathe, 14"x8" Monarch.	

#### Exceptional values in Used Tools:

Automatic screw mch., No. 52 Acme.	Lathe, 28"x12" Draper.
Automatic screw mch., No. 515 Acme.	Miller, No. 5 Becker vertical.
Drill press, 25"W. F. & John Barnes.	Press, No. 69N Bliss.
Drill press, 26" Barnes, sliding hd.	Radial, 4' Cin'ti-Bickford, GB-BD.
Drill press, 4-spindle Reed sensitive.	Shaper, 16" Gould & Eberhardt.
Drill press, 3-spindle Reed sensitive.	Shaper, 24" Flather.
Drill press, 2-spindle Reed sensitive.	Thread miller, Lees-Bradner.
Grinder, No. 0 Wilmarth & Morman.	Tilted turret, No. 6 Wood.
Lathes, 14"x 6" American (2).	Turret lathes, No. 4 Foster (2).
Lathe, 14"x 6" Monarch.	Turret lathe, No. 2 Warner & S.,
Lathe, 16"x 6" Hendey, rebuilt.	hollow hex.
Lathe, 16"x 8" American, geared	Turret lathe, 2 1/2"x26 Pratt & Whitney.
head, rebuilt.	Turret lathe, No. 2 1/2 s. g. Garvin.
Lathe, 16"x 8" Monarch.	Turret lathes, 3x36 Jones & L. (3).
Lathe, 16"x10" American.	Turret lathe, 2x24 Jones & Lamson.

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# Used Machinery Bargains

## PRESSES.

No. 95-B Toledo double crank press, tie rod frame, 10" stroke.  
No. 169½ Toledo toggle press, tie rod frame, strokes 26" & 14".  
No. 37 Swaine o. b. i., 3" stroke.  
No. 3 Stiles, solid back.  
No. 78½ Bliss twin gear, 15" stroke.

No. 58½ Toledo tie rod frame, 14" stroke, double geared.  
No. 24E Bliss double crank geared, area bed 14"x72".  
No. 33 Swaine o. b. i., (four).  
No. 31 Toledo solid back.

## MILLING MACHINES.

No. 0 Rockford, power feed.  
No. 25 Becker, plain (3).  
No. 2-B Brown & Sharpe, plain.  
No. 2 B hvy. Brown & Sharpe, pl.  
No. 3 Cincinnati, plain (3).  
No. 3 Kempsmith, plain.

No. 3 H LeBlond, plain, vert. att.  
No. 3 Cincinnati high power vert.  
No. 5 B Becker, vertical.  
No. 6 Becker vertical.  
No. 3 Pratt & Whitney die sinker.  
No. 6 Whitney hand (3).

## DRILLING MACHINES.

No. 1½ Avey b. b., 1 and 2 spindle.  
28" Hamilton and Aurora drills.  
36" Aurora drills, (2).  
36" Cincinnati, tapping attach.

5' Reed-Prentice plain radial.  
36" American sensitive radial.  
No. 2 Foote-Burt 4-spindle gang.

## LATHES.

14"x 8' Fay & Scott, taper attach.  
16"x 6' Reed-Prentice, sgl. pul. dr.  
18"x 7' Chard, d. b. g.  
18"x 9' Bell, d. b. g.  
20"x 8' Reed, with 220 v., d. c. mtr.  
30"x 8' Hamilton, d. b. g.

20"x 8' Lodge & Shipley, grd. hd., q. c.  
20"x10' American, geared head, q. c.  
22"x16' Davis, d. b. g., q. c.  
34"x10' Putnam, heavy type.  
38"x14' Fifeild, heavy pattern.

## SHAPERS AND PLANERS.

16" Stockbridge shaper.  
24" Kelly back geared shaper.  
26"x6' Pond planer.

30"x8' Ohio planer, heavy pattern.  
36"x36"x15' Betts planer, 2 hds.

## GRINDERS.

6"x32" Norton grinder.  
14"x72" Norton grinder.  
16"x48" Landis crank pin, self contained.  
12"x32" Landis universal.

16"x96" Landis plain.  
No. 2 Oesterlein tool & cutter.  
No. 2 Woods tool & cutter.  
No. 1 Cincinnati tool grinders (3).  
P. & W. vertical surface.

## SCREW MACHINES AND TURRET LATHES.

No. 00 B. & S. auto. screw machine, slotting attach., serial 6202.  
¾-3 Cleveland model A, ser. No. 27360.  
2" Cleveland model A, ser. No. 26302.  
¾" Cleveland model A. (2).  
No. 1 Garvin hand screw machine.  
No. 3 Superior hand screw mche.  
No. 4 Milholland hand screw mche.

16" Drees Fox lathe.  
18" Springfield and Am. Fox lathes.  
No. 3 Warner & Swasey Fox lathe.  
3x36 Jones & Lamson.  
21" Gisholt turret lathe.  
20x8 Fay & Scott univ. tur. lathe.  
No. 3 Pratt & Whitney turret lathe, 3" hole in spindle.

## BORING MILLS.

30" Bullard, single turret head.  
36" Niles two heads.  
24" and 36" Bullard vertical turret lathes, excellent condition.

42" Bullard, motor drive, 2 heads.  
2½" Binsse horiz. boring machine.

## -SPECIAL BARGAINS-

36"x18' Fifeild Lathe and Taper.....	\$1000.
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36"x30"x8' Cincinnati Planer, 2 heads, A. C. Motor....	800.
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**A. D. White Machinery Co.**  
108-114 N. Jefferson St., CHICAGO, ILL.

# FOR SALE

**5-3 SPINDLE National High Speed  
DRILL PRESSES \$110.<sup>00</sup> each.**

**6-NO. 1½ CINCINNATI Back Geared Pl.  
MILLING MACHINES \$275.<sup>00</sup> each.**

**4 Spindle NATIONAL ACME Screw Machines**

**6-No. 52- ⅞" Capacity.... \$425.<sup>00</sup> each.**

**2-No. 53-1⅜" " ---- 475.<sup>00</sup> "**

**2-No. 55-1⅝" " ---- 600.<sup>00</sup> "**

**3-No. 56-2¼" " ---- 650.<sup>00</sup> "**

**CINCINNATI AUTOMATIC MACHINE CO., Cincinnati, Ohio**

## A List Worthy of Your Consideration

**These tools represent 90 to 95% of new condition  
at prices approximately one-half of new.**

1-No. 15 Lea-Simplex Cold Saw, 41" capacity .....	\$ 375.
1-14"x36" Norton Plain Cylindrical Grinder, fully equipped..	2000.
1-No. 65 Heald Cylindrical Grinder, completely equipped, serial No. 367 .....	1350.
1-No. 2-B Brown & Sharpe Plain Milling Machine, with single pulley drive, completely equipped.....	850.
1-No. 4B Boker Vertical Milling Machine with circular table, fully equipped .....	850.
1-24"x24"x6" Putnam Planer, heavy duty type, single head....	850.
1-8" Curtis & Curtis Pipe Machine, capacity 1" to 8", complete with full equipment and 220 volt, 2 phase motor, self con- tained in base. (Condition almost new).....	775.
1-13"x6" South Bend Lathe, plate change, silent chain motor drive, with suitable motor, completely equipped, with chuck	375.
1-14"x6" Bradford Double Back Geared Lathe, latest type, quick change feeds .....	400.
1-3"x36" Jones & Lamson Turret Lathe, serial number 16332, bar equipment.....	1350.
1-24" Bullard "Rapid Production" Vertical Turret Lathe, (85% condition).....	1250.

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## Every Machine Rebuilt in a Machine Tool Factory

The following tools are exceptional bargains. The majority of them have been used exclusively in our own plant, where they have received the very best of care and attention, and all of them have been completely overhauled and rebuilt in our own shop, consequently they cannot be classed with the average second-hand machine. They are factory rebuilt tools of the very highest quality, with many real bargains.

### LATHES

- 1-16"x 8' American, quick change gear, single back geared head.
- 1-16"x 8' Hamilton, loose change gear, single back geared head.
- 1-18"x 8' American High Duty, quick change gear, with patented grd. head.
- 1-18"x10' American High Duty, quick change gear, with patented grd. head.
- 1-18"x10' American quick change gear lathe, single back geared head.
- 1-18"x14' American turning lathe, without screw cutting mechanism.
- 1-20"x10' American High Duty, quick change gear, with patented grd. head.
- 1-20"x12' American, quick change gear, with single back geared head.
- 1-24"x12' Greaves-Klusman Heavy Pattern, qck. chg. gr., dbl. bk. grd. hd.
- 1-30"x10' American High Duty qck. chg. gr. with double back geared head.

### DRILLS

- 1-3' American Ball Bearing Sen. Radial, with elev. table and tapping att.
- 1-3' Reed-Prentice Plain Radial, with tapping att. and gear box drive.
- 1-3' Mueller Plain Radial, with tapping attachment and gear box drive.
- 1-4' Fosdick plain radial drill with tapping attachment, cone pulley drive.
- 1-5' American Plain Radial, with tapping attachment and gear box drive.
- 1-5' Fosdick Plain Radial, with tapping attachment and cone pulley drive.
- 2-5' Bickford Plain Radial, with tapping attachment and gear box drive.
- 1-5 1/2' Pond plain radial drill with cone pulley drive.
- 1-6' Bickford Plain Radial, with tapping attachment and gear box drive.
- 1-6' Fosdick Plain Radial, with tapping attachment and gear box drive.
- 1-6' American full Universal Radial, gear box drive.
- 1-8 spindle Niles-Bement-Pond Boiler Plate Drill.
- 1-No. 2 Baush Multiple Spindle (8) High Speed Drill.

### MILLING MACHINES

- 1-No. 2 1/2 LeBlond Plain Milling Machine, 3-step cone, friction back gears.
- 2-No. 3 LeBlond Plain, with 3-step cone, friction back gears.
- 1-No. 3 Cincinnati Vertical Milling Machine with single pulley drive.

### PLANERS

- 1-36"x36"x14' American Pl. with 2 hds. on cross rail and 2 sp. countershaft.
- 1-42"x36"x26' American, with 2 hds. on cross rail, 2 side hds., 2-speed c. s.
- 1-48"x36"x18' American, with 2 hds. on cross rail, 2 side heads, 2-speed c. s.
- 1-48"x48"x26' American Heavy Pattern Planer with two heads on cross rail, two side heads, and two speed countershaft.
- 1-72"x60"x31' Pond Planer with two heads on cross rail and countershaft.

### SHAPER

- 1-16" American Back Geared Crank with table support, cone pulley drive.

### TURRET LATHES

- 1-No. 2 (2 1/2"x24") Warner & Swasey Turret Lathe, 3-step cone, friction hd.
- 1-2"x24" Jones & Lamson Flat Turret Lathe, with 3-step cone, friction hd.
- 1-2 1/2"x26" Acme Turret Lathe, 3-step cone, friction head.

### GEAR CUTTERS

- 2-No. 3 (26"x8") Brown & Sharpe Automatic Gear Cutters.

*Also a number of good "buys" in miscellaneous tools*

Many of the above tools have been used very little, and are practically the equivalent of new machines. There are many unusual and exceptional bargains that somebody is going to get the benefit of. Write us immediately for descriptions, illustrations and prices, before these bargains are gone.

## The American Tool Works Co.

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Builders of LATHES - SHAPERS - RADIAL DRILLS

# POWER PRESSES

## Inclinable

- No. 6 Niagara, 3" stroke, weight 4200 lbs.  
No. 16 Stoll, geared, 2" stroke, total weight 6000 lbs.  
No. 19 Bliss, 1½" stroke, weight 1300 lbs.  
No. 20 Bliss, 2½" stroke, weight 2250 lbs.

## Straight Side

- No. 24 Bliss, NEW, Embossing, 400 Ton Cap.  
No. EG-51 Ferracute Embossing, 75 Ton Cap.  
No. 75½ Bliss, 3" stroke, weight 13,500 lbs.  
No. 74½ Bliss, geared, 2½" stroke, weight 10000 lbs.  
No. 62 V. & O., geared, 6" stroke, weight 6600 lbs.  
No. 6 Rockford, geared, 7" stroke, weight 6500 lbs.  
No. 8-7 Z. & H., geared, 3" stroke, weight 6000 lbs.

*140 Other Presses—Low Prices*

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# Factory Rebuilt Machines

## Guaranteed

### CINCINNATI ACME TURRET MACHINERY

- 2—5/8"x4" plain head screw machines.  
3—1"x7" plain head screw machines without power feed to turret.  
4—1"x7" plain head screw machines with power feed to turret.  
2—1½"x9" friction back geared screw machines with power feed to turret.  
1—2¼"x26" flat turret lathe (cone head type) with bar equipment.  
2—2¼"x26" flat turret lathes (cone head type) with plain equipment.

NOTE: Screw machine equipment includes automatic chuck, one collet, stock feed, pan, pump and piping and countershaft.

**The Acme Machine Tool Co.**  
Cincinnati, Ohio

# FOR SALE LATHES

24"x14' 3-Step Cone,  
Double Back Gear  
Boye & Emmes Lathe

**\$1615.00**

22"x14' Greaves &  
Klusman Standard  
Lathe with taper at-  
tachment and two  
steady rests

**\$700.00**

*NET f. o. b. Cincinnati*

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**Boye & Emmes Machine Tool Co.**  
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- 1-MORRIS 4' Plain Radial Drill with motor on arm, practically new, including motor and starter ..... \$2450.
- 1-MORRIS 18" x 10' quick change, 3-step cone, dbl. bk. grd. Lathe, with taper attachment, first class condition..... 1000.
- 1-MORRIS 16" x 8' qk. ch., Grd. Head Lathe, can be arranged for motor or countershaft drive, practically new..... 1100.
- 1-MORRIS 22" x 10' 3-step cone, d. b. g., semi-qk ch. Lathe, A-1..... 950.
- 1-LeBlond 24" x 12' quick change, 3-step cone, double bk. grd. Lathe, with belt shifter, first class condition..... 1150.
- 1-Bickett 42" x 42" x 20' 2-hd. Planer, arr. for mtr. dr., including a variable sp. 20 h.p. mtr., 220 v., d. c. Has never been used..... 5000.
- 1-Warner & Swasey Hand Screw Machine, cone drive, back geared, with oil pump, first class condition..... 300.
- 1-Dreses 1" cone dr. Hd. Screw Mch., oil pump & collets, A-1..... 200.
- 1-18" x 8' Chard 3-step cone semi-qk. ch. Lathe, good cond..... 500.
- 1-14" x 6' Monarch cone drive d. b. g., q. c. Lathe, good cond.. 175.
- 1-4" x 20" wide Faced Grinder, first class condition..... 250.
- 2-Lincoln Millers. Type 10, rapid traverse to table, good, ea..... 300.
- 1-Steptoe No. 0 Milling Mch., cone fd., first class condition..... 300.
- 1-Hoefer 23" 2-spld. Gang Drill, grd. fd., squared tables, A-1..... 300.
- 1-Webster & Perks 5-spld. Not Tapper, first class condition..... 200.
- 1-MORRIS Horiz. Drilling & Boring Mch., t. a., pract. new..... 1500.
- 1-Thompson Elec. Butt Welder, Type 6, 230 v., sgl. ph., A-1..... 900.
- 2-4" 4-spld. Gridley Automatics Nos. 2997 & 2765, with extra equipment, good condition, each..... 800.
- 2-14" 4-spld. Gridley Autos. Nos. 6102 & 6103, extra equip., good cond., arr. for motor dr., including 5 h.p., a. c., 220 v. mtr., ea..... 850.
- 1-14" 4-spld. Gridley Automatic, pract. new, extra equip. arr. for motor drive, including 7½ h. p., a. c., 220 v. motor..... 1500.

**The Morris Machine Tool Co.,** Cincinnati, Ohio

## POWER PRESSES FOR SALE

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Nos. 1½, 3½ & 4A Bliss.  
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No. SC79 Ferracuta, 100" Grd.  
No. SRC102 Ferracuta, 40" Grd.  
No. SRC104 Ferracuta, 58" Grd.

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# BARGAINS!!

## WHY NOT PICK THEM UP?

**Guaranteed Condition —  
Prices quoted f.o.b. cars N.Y. C.**

1—Horizontal Boring Mill Barrett, 40" swing, 6" bar, 120" long, quick change, speeds and release, condition 95%.....	\$ 1500.
1—Same as above Bar 65" long .....	1350.
1—Radial Drill, 8", arranged for motor, Cincinnati Bickford, single pulley drive, variable speed box, condition 95%.....	2000.
1—Radial Drill Western 5' full Universal, single quick change, box table, condition 90% .....	850.
1—Planer, American, 4 heads, 36"x36"x14', condition 95% ...	1500.
1—Planer, same as above, 2 heads .....	1350.
2—Planers, Whitcomb Blaisdell, 24"x24"x12', 2 hds., cond. 95% ..	750.
1—Horizontal Floor Type Boring Mill, motor drive, d. c., Fosdick, 3½ bar, condition 90% .....	1500.
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2—No. 3B Plain Milling Machines, quick change and feed, condition 90%, each .....	350.
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1—Jones & Lamson Flat Turret Lathe 2x24, full bar and chucking equipment .....	350.
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1—72" Bement & Miles Boring Mill, condition excellent .....	650.
1—38"x33' Niles-Bement-Pond Lathe, triple geared, face plate drive, double carriage .....	1750.
1—No. 16 Brown & Sharpe Grinder .....	750.
1—72"x21" Brown & Sharpe Cr'kshaft Grinder, condition 95% ..	1150.
1—Tindel Morris Crankshaft Grinder, 74"x21" sw'g, cond. 95% ..	1250.
1—Testing Machine, Tineus Olson, 100,000 lbs., with motor equipment, condition 95% .....	1250.
1—No. 14 Whiton Gear Hobber for Spur and Worm, with parts and C. S. ....	250.

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Machinery Clearing House Dept.

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No. 6 Fellow gear shapers.  
6", 11" Gleason generators.

4 Gear testing machines.

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2½" to 4½" single spindle automatic screw machines.

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No. 3 Hendey Norton plain.

No. 5 Hendey Lincoln type.  
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Model "A" Gooley & Edlund.

## ENGINE LATHES

16"x 6' Hamilton.  
14"x 5' F. E. Reed.  
20"x 10' American.

24"x 12' Reed.  
14"x 6' Pratt & Whitney.

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6A Potter & J. auto. turret lathe.  
Nos. 3, 4 & 6 Warner & Swasey.  
3"x 36" Jones & Lamson.  
24" Gisholt, 6" hole, taper attach.

Fitchburg Low-Swing 3½"x 80-8x 80.  
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2"x 26" Pratt & Whitney.

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22", 25" & 26" Barnes single spdl.  
25" J. E. Snyder Co.  
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22½" Barnes 3-spindle gang.  
4-spindle Foote-Burt gang. 3" spdl.

4-spindle Foote-Burt gang, 3½" spdl.  
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16-spindle multiple Baush, b. d.  
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Cleveland single end punch, 12" throat.

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3 Phase, 60 Cycle, 220 Volts, A. C.

40 h. p. Western Electric, 900 r. p. m.  
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30 h. p. Wagner, 900 r. p. m.  
30 h. p. Fairbanks-Morse, 1200 r. p. m.

Wotten battery charging motor generator, type B. E 21-6.

**Shafting, Belting, Pulleys, Hangers and Small Shop Tools**

— ADDRESS —

**RUSSEL MOTOR AXLE CO.,**  
**North Detroit, Mich.**

# ReMANUFACTURED - (ORIGINATED BY US) - MACHINE TOOLS

REG. U. S. PAT. OFF.

In our stock we have nearly 2000 high grade machine tools ready for immediate delivery. All are bargains and every one is guaranteed. Write for our latest complete "Green List" and prices.

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- 2-13"x 5' Willard.
- 2-14"x 6' Rockford.
- 1-14"-16"x 8' Lodge & Shipley.
- 5-18"x 8' Boye & Emmes.
- 30-20"x 8' American.
- 14-20"x 8' LeBlond.
- 5-20"x12' American.
- 5-20"x16' American.
- 20-21"x10' LeBlond.
- 10-24"x11' Cisco.
- 3-24"x12' Providence.
- 1-24"x15' Chard.
- 1-24"x24' Lodge & S. selective hd.
- 7-25"x10' LeBlond.
- 10-25"x12' LeBlond.
- 24-26"x10' Canada.
- 10-26"x18' Bridgeford.
- 18-32"x12' Pittsburgh.
- 1-36"x18' Putnam geared head.
- 4-36"x30' Pittsburgh Geared Hd.
- 3-36"x37' Niles Bement Pond.
- 1-51"x20' LeBlond.
- 1-56"-64"x18' Johnston.
- 1-60"x18' Johnston.

## MILLERS

- 2-No. 1B Milwaukee.
- 5-No. 2 Kempsmith.
- 3-No. 2 Rockford.
- 2-No. 28 Ohio.
- 6-No. 2-B Hvy. Brown & Sharpe.
- 4-No. 3 Kempsmith.
- 9-No. 3-B Hvy. Brown & Sharpe.
- 1-No. 3B Milwaukee, Universal.
- 2-No. 4 Cincinnati.
- 2-No. 4 LeBlond.
- 3-No. 4-B Becker.
- 2-No. 3 Cincinnati Vertical.
- 2-No. 4 Cincinnati Vertical.
- 4-No. 5-C Becker.
- 3-No. 6 Becker.

## BORING MILLS—Vertical

- 2-24" Bullard "New Era."
- 1-42" Gisholt.
- 1-44" Niles Bement Pond.

## BORING MILLS—Vertical—Cont.

- 1-48" Gisholt.
  - 2-52" King.
  - 1-54" Bullard.
  - 2-62" King.
  - 3-72" Cincinnati.
- ## BORING MILLS—Horizontal
- 3-2" Foote-Burt.
  - 1-No. 3A Universal.
  - 1-No. 3 Rochester Floor Borer.

## DRILL PRESSES

- 1-20" Barnes all geared.
- 1-34" Barnes.
- 1-36" Snyder.
- 1-No. 24 Foote-Burt.
- 1-No. 25 Foote-Burt.
- 6-No. 23 2-spd. Henry & Wright.
- 1-3-spindle Henry & Wright.
- 4-6 spindle Allen.

## PLANERS

- 1-24"x24"x 6' American.
- 1-24"x24"x 6' Liberty.
- 2-36"x36"x10' Bickett.
- 1-36"x36"x12' Woodward & P.
- 3-36"x36"x18' Cincinnati.
- 3-42"x42"x10' Gray.
- 1-72"x56"x36' Cincinnati.

## GRINDERS

- 3-6"x18" Landis.
- 12-10"x36" Norton.
- 3-10"x72" Norton.
- 3-12"x26" Modern.
- 11-14"x50" Norton.
- 1-16"x72" Norton.
- 1-18"-30"x96" Norton Gap.

## PRESSES

- 2-No. 4 Walsh.
- 1-No. 32 Toledo Solid Back.
- 1-No. 34 Toledo Solid Back.
- 1-No. 744 Bliss Geared.
- 1-No. 754 Bliss Geared.
- 1-No. 93-A Toledo Double Crank.
- 1-No. 94-F Toledo Double Crank.
- 1-No. 69 Stoll Geared.
- 1-No. 87 Bliss Geared.

*Our Guarantee: Your money back if you return a machine within thirty days, freight prepaid.*

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# Good Used Tools

## BORING MILLS

12' BETTS Vertical, cone drive, geared feeds .....	92%	new
10-16 NILES Vertical, A. C. motor dr., extension rail & head .....	90%	"
110" BETTS Vertical, cone drive .....	90%	"
84" BULLARD Vertical, motor drive, Q. C. feed .....	90%	"
60" CINCINNATI Vertical Rapid Production, motor drive .....	92%	"
54" BULLARD Vertical Maxi. Mill, motor drive .....	90%	"
34" KING Vertical, 5-hole turret, belt drive .....	90%	"
24" BULLARD New Era, side head .....	90%	"
DETRICK & HARVEY Horizontal, 7" bar, heavy duty .....	95%	"
No. 32 LUCAS Horizontal, 3½" S. P. drive .....	90%	"
ROCKFORD Horizontal, 3" bar, cone drive .....	85%	"

## LATHES

84"x40' PUTNAM, geared head, heavy duty .....	90%	new
76"x35' POND Type B. G., variable speed motor drive .....	85%	"
48"x28' POND Type B. G., variable speed motor drive .....	88%	"
42"x36' BRIDGEFORD, geared head, motor dr., 2 carriages .....	92%	"
36"x36' BRIDGEFORD, geared head, motor dr., 2 carriages .....	92%	"
36"x18' LODGE & SHIPLEY, S. P. drive, 18 speeds .....	90%	"
24", 20", 18" and 16" Lathes—all makes.		

## HYDRAULIC EQUIPMENT

1000 ton H. S. UNITED Steam Hyd. Forging Press .....	90%	new
800 ton R. D. WOOD Flanging Press .....	92%	"
700 ton MESTA 4-column Hyd. Press .....	90%	"
500 ton BETHLEHEM 4-column Press .....	95%	"
365 ton R. D. WOOD Joggling Press .....	92%	"
250 ton SOUTHWARK Tire Forcing Press .....	100%	"
150 ton UNITED H. S. Forging Press .....	93%	"
All Sizes Accumulators and Pumps.		

We are able to quote on more hydraulic equipment than any other used machinery dealer in the Country.

## MISCELLANEOUS

12"x96" LANDIS Plain Grinder, belt drive .....	95%	new
No. 25-24" FOOTE-BURT Upright Drill, S. P., 3" cap .....	99%	"
No. 4 QUINTS 6-spindle Turret Drill, 2" cap .....	100%	"
No. 4 CINCINNATI Vertical Miller, motor drive .....	98%	"
36"x36"x12' BICKETT Planer, 1 head, belted motor drive .....	95%	"
120"x120"x25' BEMENT Planer, 4 heads, rev. motor drive .....	90%	"

Numerous other good tools shown in our illustrated catalogue No. 220. Send for it.



# EASTERN & EQUIPMENT

# MACHINERY COMPANY.

COMMERCIAL TRUST
BLDG. PHILADELPHIA, PA.



# USED

## BORING MILLS

- 24" Bullard vertical turret lathe, New Era.
- 30" Bullard, 3-jaw chlk., mtr. dr. (2).
- 34" Rogers, grd. feed, motor drive.
- 42" Baush, 2 swivel hds., pl. tbl., m.d.
- 42" Bullard rap. prod., 2 swiv. hds.
- W. F. & J. Barnes horiz. drilling & boring.

## DRILLS

- No. 3 Avey, power feed.
- 20" Prentice, lever feed.
- 20" W. F. & J. Barnes, wheel and lever, power feed. (3).
- 21" Cincinnati, sliding head., b. g., p. f., tapping.
- 23" Rockford sliding hd., back grd., power feed.
- Colburn No. D-5 heavy duty.
- Natco No. 14 Multi-Driller, bored for 22, equip. with ten 1 1/2" spdl.

## RADIAL DRILLS

- 3' American, pl., gr. box, swg. table.
- 3' Prentice plain, box table.

## GANG DRILLS

- 4-spdl. 20" Barnes, w. & l., pwr. fd.
- Moline No. 6-D, 24" rl., 8 BV-14 hds.
- Moline No. 7, 24" rail, 4 No. 28 hds.
- Moline No. 11-D, 5' rl., 8 BV-14 hds.
- Moline No. 16-D, 24" rl., 6 BV-20 hds.
- Moline No. 17-D, 24" rl., 8 BV-14 hds.
- Moline No. 7-D Cylinder Borer, 30" rail, 4 CWL heads.

## GEAR CUTTERS

- No. 12 Barber-Colman hobber.
- No. 5 B. & S. spur gear cut., 36" cap.
- 50"x12" Gould & Eberhardt, spur, with rack cutting attachment.
- No. 6 Fellows gear shaper.

## GRINDERS

- No. 1 Cincinnati pl. cutter grinder.
- No. 1 1/2 Cincinnati univ. cutter gdr.
- 8"x30" Modern plain.
- 10"x72" Norton plain., cylindrical.
- 12"x48" Cincinnati pl. cylindrical.
- 12"x48" Cincinnati univ. cylindrical.
- 16"x48" Cincinnati pl. cylindrical.
- No. 6 Bryant internal.
- No. 20 Heald rotary surface.
- Pratt & Whitney vertical surface.

## GRINDERS—Continued

- No. 4 Gardner disc (3).
- 84"x24" Diamond face, motor drive.
- Type A, Production polisher.

## LATHES

- 9"x18" Porter-Cable.
- 14"x 6' Rockford, c. r., quick chg.
- 16"x8' Bradford, 3-step, c. r., taper.
- 16"x8' Von Wyck, 3-step, c. r.
- 18"x8' S. & B., 3-step, comp. rest.
- 18"x13' Lehmann, qk. ch., 3-step, c. r.
- 18"x14' Rockford, c. r., qk. chg.
- 20"x8' L. & S., 3-step, quick ch., c. r.
- 22"x8' Bradford, qck. chg., c. r.
- 24"x12' Reed, 4-step, compound rest.
- 23"x14' LeBlond, 3-step, comp. rest.

## MILLING MACHINES

- No. 1 Cincinnati plain, cone.
- No. 1 1/2 Cincinnati plain, cone.
- No. 2 Cincinnati plain, cone.
- No. 2 1/2 Rockford universal, cone.
- No. 3 Cincinnati plain, high power.
- No. 3-B K. & T. vert., 42" table trav.
- No. 4 Becker-Brainerd vertical.
- No. 6 Becker-Brainerd vertical.
- Putnam, Lincoln type (3).

## PLANERS

- 24"x24"x 6' Cincinnati, 1 head.
- 24"x24"x 6' Whitcomb, 1 head.
- 66"x66"x17' Harrisburg, 2 heads.

## SCREW MCHS. & TURRET LATHES

- 1" Smith screw machine, plain head.
- 1 1/2" Acme screw mche., friction hd.
- No. 1 Warner & S. hollow hexagon.
- 3"x36" J. & L. flat turret, grd. hd.
- 21"x10" Gisholt, 3-jaw chuck.
- No. 53 National-Acme automatic.

## SHAPERS

- 20" Milwaukee crank.
- 21" American b. g. crank.
- 28" American b. g. crank.

## SAWS

- Q. & C. cold saw.
- Klemm metal band saw.
- No. 5 Marvel hack saw.

*MARSHALL & HUSCHART MACHINERY CO.*

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# Opportunity Knocks Again For the Conservative Buyer

## *Real Values in Machine Tools—*

### **Lathes**

- 1—48"x21" Pond (Plainfield) with motor.
- 1—44"x45" S W Putnam (Fitchburg) with motor.
- 3—32"x12" Pittsburgh.
- 1—30"x28" Pond (Plainfield) with motor.
- 1—24"x16" Bradford, with motor, s. p., Taper attachment.

### **Boring Mills—Vertical**

- 1—10' to 16' Niles (Hamilton) motor.
- 1—96" Niles.

### **Boring Mills—Horizontal**

- 1—No. 4 Detrick & Harvey horizontal, 7" bar, m. d.
- 1—No. 40 A Landis horizontal, 4" bar.
- 2—No. 2 Rockford horizontal.

### **Planers**

- 1—72"x72"x24" Detrick & Harvey, m. d.
- 1—48"x48"x14" Cincinnati, m. d.
- 1—48"x48"x12" Putnam, 3 heads, with motor.
- 1—42"x36"x10" Cincinnati, 2 hds.
- 1—42"x42"x14" Gray, 2 heads.

### **Presses**

- 1—S. 304 Ferracute.
- 1—150-ton high speed steam.
- 1—No. 108½ Cleveland punch press.
- 1—78½ Bliss str. sided, 52000 lbs.
- 1—No. 26 Toledo cam press.
- 1—No. 78½ Toledo.
- 1—206 C Toledo, 35,900 lbs.
- 1—No. 68 Stoll, straight side.

### **Grinders**

- 1—21x96 Norton plain.
- 2—10x50 Norton plain.
- 2—No. 14 Brown & Sharpe plain.
- 2—Landis crankshaft.
- 1—No. 14 Besly disc.
- 1—No. 6 Gardner disc.

### **Multiple Drill Presses**

- 1—12 spindle Harrington.
- 1—6 spindle Foote Burt.
- 1—Moline hole hog.

### **Drill Presses**

- 2—D 2 Colburn.
- 1—26" Barnes.
- 1—34" Barnes.

### **Radial Drills**

- 1—Western, 6' arm, with motor.
- 1—6' Niles.
- 1—2½' Mueller.

### **Steam Hammers**

- 1—1100 lbs. Chambersburg.

### **Milling Machines**

- 1—Becker No. 5-B vertical.
- 1—Model C Becker vertical.
- 1—Model AB Becker vertical.
- 2—No. 13-B Brown & Sharpe.
- 1—No. 2 Cincinnati, single pulley, plain.
- 5—No. 12 Brown & Sharpe.

### **Screw Machines**

- 1—4¼" Gridley automatic.
- 2—Model B, 2" Cleveland automatics.
- 3—Model B, 2" New Cleveland automatics.
- 2—Model B, 1¼" Cleveland automatics.

### **Turret Lathes**

- 1—24" Gisholt turret lathe.
- 1—No. 6 Foster screw machine.
- 2—No. 4 Foster screw machine.
- 5—No. 4 Drees turret lathes.

### **Miscellaneous**

- 30—2 spindle ¾" National Acme Bolt Cutters.
- 1—No. 7 Catlin Keyseater.
- 1—36" Niagara Squaring Shear.
- 1—No. 13 Brown & Sharpe Gear Cutter.

**The EMPIRE MACHINERY EXCHANGE CO., Inc.**  
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## **90% New Fellows Gear Shaper**

One Fellows No. 6 motor driven Gear Shaper, maker's serial No. 5365, with General Electric 3¼ H. P., 220 volt, 60 cycle, 3 phase, four-speed motor. This machine was built in 1918, but has not had more than three months' use,-----\$775.00

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## **Brand New Moline 14 Spindle Driller**

One Moline "Hole Hog" No. 65D Table Driller, with fourteen type D14 spindles, with 10 H. P., 220 volt, 60 cycle, 3 phase Crocker-Wheeler motor. Each spindle has ½" drilling capacity. Table is 76" long, 12" wide. Never used,-----\$700.00

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## **Brand New P. & J. Automatic Piston Lathe**

One Potter & Johnston No. 2P automatic Piston Turning Lathe, motor driven, with General Electric 5 H. P., 220 volt, 60 cycle, 3 phase motor; maker's serial No. 12443. Never used,-----\$650.00

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# J.J. McCABE SINGER BUILDING NEW YORK CITY

## LARGE BORING MILL

8' sw., Niles Vertical Boring and Turning Mill, 2 swivel heads, table 68" diam. 54" height, under tool. Double box cored housings, cone-drive. Rated A1.

## McCABE "2-in-1" LATHES

Used but rebuilt  
in our own shop

26-48" swing, 12' bed.  
32-54" swing, 14' bed.  
26-48" swing, 24' bed, large geared plate, taper attachment.  
26/48" swing x22' bed.  
38/60" swing x26' bed, grd. plate.  
24/40" swing x26' bed.

### McCabe—Former Pattern

24-40" swing, 10' bed.  
26-44" swing, 10' bed.

## NEW "2-in-1" LATHES

12-ft. to 32-ft. Beds

## OTHER LATHES

14" sw., 8' bed, Sidney, q. c.  
15" sw., 6' bed, Sebastian.  
18" sw., 10' bed, McCabe, q. c.  
18" sw., 12' bed, Schumacher & B.  
21" sw., 12' bed, McCabe, q. c.  
24" sw., 14' bed, Prentice.  
26" sw., 14' bed, Niles-Bement-P.  
32" sw., 20' bed, McCabe, q. c.  
42" sw., 16' bed, McCabe, geared head, quick change.  
50" sw., 20' bed, Pond.  
50" swing, 24' bed, Bement-Miles, triple geared.  
60" sw., 28' bed, Wickes.  
84" sw., 46' bed, Putnam, motor-dr.  
110" swing, 42' bed, Bement-Miles, 5" blocks.

## PLANERS

84"x60"x30' Pond, 4 heads.  
72"x72"x24' Niles, 4 heads.  
54"x54"x12' Pond, 4 heads.  
48"x48"x15' Pond, 2 heads.  
36"x36"x12' Gray, 2 heads.  
26"x26"x 6' Niles, 1 head.

## A FEW OF THE OTHER BARGAINS

12" stroke, Smith & Mills Shaper.  
18" stroke, Ohio Shaper.  
30" Gould & Eberhardt Gear Cutter.  
18" Gleason Bevel Gear Cutter.  
No. 15 Bliss Press.  
25" Espen-Lucas Cold Saw.  
"IM" Q. & C. Cold Cut-Off Saw.  
25 lb. Dupont Hammer.  
50 lb. Little Giant Power Hammer.  
42" Bullard Boring Mill.  
No. 3 Baker Keyseater.  
24" arm Radial Drill, speed box.  
4" arm Radial Drill, speed box.  
24" stroke, Bement-Miles Slotter.  
21" Turret Lathe, Gisholt Gap.  
3x36" Jones & L. Turret Lathe.  
Horizontal & Vert. Newton Miller.  
No. 5 Hendey, Lincoln type Miller.  
No. 3 Cincinnati Plain Milling Mch.  
No. 22 Brainerd Plain Milling Mch.  
No. 14 Landis Universal Grinder.  
Bridgeport Roll Grinder.  
48" bar, Bement-Miles Horizontal Boring Mill.  
23" Bar Horizontal Boring Mill.  
42" throat Perkins Punch.  
50" throat McCabe Punch & Shear.  
60" throat H. & J. Horiz. Punch.  
10' McCabe Rolls, drop end.  
800 lb. Bement Steam Hammer.  
19" Gap Air Riveter.  
14" Acme Bolt Cutter.  
3-Hack Saws.

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National Acme Bolt Threader, two spindle, with two No. 36 die heads.....	\$ 200.
No. 26 Atlas Arbor Press, like New.....	100.
Drill Press, used 10" Winterhoff Bench, 1/2" capacity.....	35.
Drill Press, 2 spdl. Ball Bearing Allen, good condition.....	250.
Drill Press, 20" Silver Back Geared, light type.....	100.
Drill Press, 20" Superior Plain, wheel and lever feed.....	60.
Grinder, used Detroit Centerless.....	250.
Grinder, used Capital Internal.....	290.
Grinder, No. 2 Webster & Perkins 10"x30" Universal Cyl., complete with all regular equip. Tool in very good cond.	575.
Lathes, Porter-Cable 9"x14" Mfg. Lathe, good as new.....	275.
Lathe, 14"x6" Porter Engine Lathe.....	200.
Lathe, Woods Model C Tilted Turret, plain head, power feed to turret, 10" Barker wrenchless chuck, fine condition...	450.
Lathe, used 13"x8" Willard, double back gear, fine cond.....	250.
Lathe, new 9"x24" Sundstrand Mfg., gear drive.....	590.
Miller, used No. 2 LeBlond Heavy Duty Plain.....	575.
Miller, new No. 1 1/2 Rockford Plain.....	1007.
Millers, used U. S. Hand Millers, good condition.....each	130.
Motor, 7 1/2 H. P. Western Electric, d. c., 230 volt, 1750 r. p. m., complete with rails, pulley and starter.....	90.
Punch and Shear, mfrd. by King Bridge Co., 16" throat, 1 1/2" stroke, punch 3/4" thru 3/4", shear 4 1/2"x3"x5/16" angle..	300.
Screw Machine, used No. 1 Garvin Plain, practically new...	195.
Tumbling Barrel, No. 2 Globe Hexagon Horizontal, 13 1/2" diameter, x24" long with 8" hand hole.....	65.

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- 7—No. 55 National Acme Automatics, serial Nos. 9293, 9290, 9606, 10144, 7448, 9069, 7445, complete with Motors, 5 h. p., 3 phase, 60 cycle, 440 volt.
  - 1—No. 515 National Acme Automatic, motor driven, with 3 h. p. Western Electric Motor, 440 volt, 1800 r. p. m.
  - 3—Model "A" Cleveland Automatics, used but 60 hours, absolutely like new, complete with all regular equipment.
  - 1—No. 53 National Acme Automatic, serial No. 10109, motor driven with 5 h. p. Robbins & Meyers Motor, 440 volt.

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NEW YORK      ALBANY      BUFFALO  
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## Milling Machines

No. 5 Cincinnati High Power Plain.  
No. 3 Cincinnati High Power Univ.  
No. 3-S Cincinnati Universal.  
No. 2 Cincinnati High Power Univ.  
No. 4 Cincinnati High Power Vert.  
No. 3 Cincinnati High Power Vert.  
No. 2 Cleveland All Geared Plain.  
No. 1 Cleveland All Geared Plain.  
No. 20 Garvin Vertical New.  
No. 22 Garvin Vertical New.  
No. 15 Garvin Vertical 3 Spindle.  
No. 3 Davis Drum Type Cont.  
24" x 24" x 20" Ingersol 5 Heads.

## Gear Cutters

No. 3 Brown & Sharpe Automatic.  
18" Becker-Brainerd.  
24" Gleason Bevel Planer.  
36-BM Gould Eberhardt Rough.  
No. 5 Lees Bradner Hobber.  
24" Schuchardt Schutte.

## Lathes

36" x 60" Bridgeford All Geared Head.  
36" x 34" Bridgeford All Geared Head.  
36" x 22" Bridgeford All Geared Head.  
36" x 60" Bridgeford Boring Lathe.

## Presses

No. 2-B Standard Dbl. Act.  
No. 55 DAG Ferracute Drawing.  
No. 52 SRG Ferracute Stamping.  
21 Ton R. D. Wood Hydraulic.  
No. 2 B. A. Gier Straightening.  
No. 7 Myers Bench Arbor.  
No. 4 Greenerd Arbor.

## Threaders

8" Bignall Keeler Pipe.  
2" Landis Double Head.  
No. 2 Murchey Semi-Automatic.  
3" Saunders Belt Drive Pipe.  
3" Landis Bolt, Lead Screw.  
1½ Acme Double Head, A.  
No. 2 Garvin Tapper B. G.  
1½ Acme Six Spindle Tapper.

## Automatics

No. 5A Potter Johnston.  
2¼" Gridley 4 Spindle.  
¾" Gridley 4 Spindle.  
1¼" Gridley 4 Spindle.  
2¼" Gridley 1 Spindle.  
3¼" Gridley 1 Spindle.  
2" Cleveland Model A.  
2" Cleveland Model C.

## Saws and Cut-Off

No. 2B Gorton Cut-off.  
No. 3 Burr Cold Saw.  
14" Metal Band Saw.  
6" x 6" Marvel Hack Saw.  
No. 2 Myers Hack Saw.

## Turret Lathes

24" Vertical, Side Head.  
34" Vertical, Bertram.  
36" Vertical, Side Head.  
No. 3-A Warner Swasey.  
No. 6 Warner Swasey.  
No. 4 Warner Swasey.  
No. 3 Warner Swasey.  
No. 1 Warner Swasey.  
2¼" x 11 Acme, G. F. H.  
2¼" x 10 Milholland, G. F. H.  
1½" x 18 Pratt & Whitney.  
No. 2½ Garvin, G. F. H.  
No. 5½ Bardons Oliver.

## Vertical Boring Mills

42" Bullard 2 Heads.  
48" Colburn 2 Heads.  
51" Bullard 2 Heads.  
54" Colburn 2 Heads.  
62" King, 2 Swivel Heads.  
62" Bullard, 2 Swivel Heads.  
62" Colburn Rapid Travel.  
72" Niles 2 Heads.  
84" Pond Extra Heavy.  
144" Niles, 2 Heads.

## Radial Drills

87" Warren D. C. Motor.  
72" American Gear Box.  
72" Bickford Gear Box.  
60" Bickford Gear Box.  
48" Bickford Gear Box.  
28" American Sensitive.  
24" Mueller Gear Box.

## Grinding Machines

20" x 144" Landis Plain.  
20" x 84" Landis Universal.  
20" x 72" Brown & Sharpe Universal.  
14" x 96" Norton Plain.  
14" x 50" Norton Plain.  
12" x 36" Modern Universal.  
10" x 72" Norton Plain.  
6" x 32" Norton Plain.  
No. 14 B. & S. Wide Wheel.

## Miscellaneous

No. 3½ Baker Keyseater MD.  
1000 lbs. Rennerfelt Electric Furnace.  
Eastman Photost No. 0.  
2-B Gorton Cut-Off Machine.

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<b>BLOWERS:</b>	2—No. 8 Sturtevant Pressure, bottom horizontal discharge. Outlet 13" dia., each.....	\$ 60.
	2—No. 8 Buffalo Volume Blowers, one 13" dia. outlet, one 16 $\frac{3}{8}$ " dia., each.....	\$ 60.
<b>BORING MILLS:</b>	1—Warner & Swasey 30" Vert. Turret Boring Mill, table 29" dia., single pulley drive.....	\$ 250.
	1—Bridgeport 36" 48" Extension Vertical Boring Mill, one swivel head.....	\$ 350.
	1—Betts 72" Vertical Boring Mill, table 60" dia., 7 $\frac{1}{2}$ " thick. 2 swivel heads. Weight about 34,000 lbs.....	\$ 750.
<b>LATHES:</b>	1—McMahon 16"x6' Lathe, $\frac{3}{4}$ " hollow spindle, 14" 4-jaw Independent chuck, as is.....	\$ 75.
	10—Walcott 26"x10'6" Hvy. Duty Qk Change Gear Engine Lathes, dbl. bk. grd., 2 $\frac{1}{8}$ " hollow spdl., standard equip., 95% new, ea.....	\$ 690.
	1—Fox Turret Lathe 16"x5', 6-hole turret, 1 $\frac{1}{4}$ " holes, hand feed to turret, hollow spindle, chasing bar, 13" 3-jaw chuck. Countershaft.....	\$ 125.
<b>MILLING MCHE.:</b>	1—Cincinnati No. 3 Plain Milling Mche. with overhanging arm. Table 12"x3'11". As is.....	\$ 250.
<b>COLD SAWS:</b>	1—Wagner Size 18 Type 3 for 18" dia. saw. Vise has jaws 10" long, 4" deep, open 6". Hand geared ratchet feed.....	\$ 75.
	1—Glien No. 22. Takes 22" dia. saw. Capacity: round 6", square 5 $\frac{1}{2}$ ", I-beams 8", channels 10", angles 6", 100 lbs. rails. Screw hold-down. Countershaft.....	\$ 150.
<b>MISCELLANEOUS:</b>	Oster Pipe Machine, hand power, on pedestal stand. Cuts pipe up to 4". Fine cond.....	\$ 40.
	Eaton-Cole-Burnham Belt Drive Pipe Machine, cuts pipe 1" to 4". Fine condition.....	\$ 275.
	Eaton-Cole-Burnham Belt Drive Pipe Machine, cuts pipe 2 $\frac{1}{4}$ to 8". Fine condition.....	\$ 550.
	Straight Side Punch Press on iron stand, $\frac{3}{4}$ " stroke. Good condition.....	\$ 60.
	No. 56 Double Housing Knuckle Joint Embossing Press, 2" stroke. Pressure 60 tons. Good condition.....	\$ 275.
	33 Machinists Vises 4" to 7", plain & swivel jaw. Plain jaw, \$1.50 per inch. Swivel jaw, \$2.00 per inch.	

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We maintained one of the best equipped pipe fabricating plants in the country, and as we always operated profitably, no expense was spared in keeping our equipment in first-class repair.

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Boring Mills

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## PIPE MACHINES

2" Curtis.  
6" Bignall & Keeler.  
12" Bignall & Keeler.

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No. 74½ Bliss s. s. 6" stroke.  
No. 75½ Bliss s. s. 6" stroke.  
No. 58 Toledo s. s. 6" stroke.  
No. D 201 Ferracute s. s. 16" str.  
No. 256 Toledo s. s. double crank.  
No. 6N American, o. b. i., 3" str.  
No. 5 Bliss Stiles type, 2½" str.

## STRUCTURAL MACHINERY

No. 1 Cleve. I-Beam Straightener.  
6x6x1" Double Angle Shear.  
15" Pels I-Beam Shear.  
10" thr. Cleve. Horz. Punch 1" cap.  
20" thr. Cleve. s. e. Punch 1" cap.  
24" Whiting s. e. Punch 1" cap.  
36" Cleveland, s. e. Punch 1" cap.  
42" Whiting s. e. Punch 1" cap.  
48" Cleveland s. e. Punch 1" cap.  
Stand. Eng. Beam Cooper & Notcher  
Long & A. hvy. duty Punch, Style D.  
No. EG6 Ferracute s. s., 3" str.

## PLANERS

16"x16"x45' Modern, 1 head.  
22"x22"x 5' Gray, 1 head.  
24"x24"x 6' Gray, 1 head.  
36"x32"x10' Pond, 1 head.  
48"x48"x14' Patch, 4 heads M. D.  
48"x48"x14' W. & P., 4 hds. M. D.  
48"x28"x18' New Haven, 2 heads.

## SHEARS

1½" G. & Mc. Rod Shear.  
1½" Carlin Alligator Shear.  
3½" Chicago Alligator Shear.  
4" Carlin Alligator Shear.  
5" Carlin Alligator Shear.  
6½" United Alligator Shear.  
20" Mesta Bloom Shear.

## GRINDERS

18"x2' U. S. Floor Grinder, m. d.  
No. 2 Diamond Wet Tool Grinder.  
12"x36" Fitchburg Plain.  
16"x36" Landis Universal.  
16"x66" Landis Universal.  
16"x68" Landis Crankshaft.  
26"x96" Landis Plain, with crankshaft attachment.

**NOTE:** For boiler, compressors, generator, steam engines, motors, etc., see our stock. Complete list on request.

## ENGINE LATHES

12"x 5' Vernon, q. c. g., t. a.  
16"x 6' Putnam, taper attach.  
16"x 8' Bradford, q. c. g.  
19"x10' LeBlond.  
20"x10' Bradford.  
21"x12' LeBlond, q. c. g.  
24"x12' American, q. c. g.  
30"x16' LeBlond, q. c. g.  
36"x30' American, q. c. g., grd. hd.  
36"x32' Bridgeford, q. c. g., "  
42"x22' American, "  
42"x23' Putnam, "  
42"x30' American, "  
42"x31' Putnam, "  
48"x24' Bridgeford, "  
60"x40' Fifeild, triple grd.

## BORING LATHES

36"x40' Bridgeford Geared Head.  
36"x56' Bridgeford Geared Head.  
39"x48' Amalgamated Grd. Head.  
39"x64' Amalgamated Grd. Head.  
48"x44' Bridgeford Geared Head.  
48"x50' Amalgamated Grd. Head.

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300-600-800-1000-1200-2000-2500-40' and 6000 single & double frame.

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No. 3 Geometric, cap. ½".  
1½" National double head.

## RIVETERS

Allen 32" thr., 16" gap.  
Allen 34" thr., 14" gap.  
Allen 66" thr., 13½" gap.

## MISCELLANEOUS

6' Niles Plate Bend Roll, ½" cap.  
1½" Ajax Forging Machine.  
6' Lennox Rotary Shear.  
6" class A Lovekin Flanging Mch.  
6' N. B. P. Radial, t. a.  
8-spdl. Bausch Multi Drill, 1" cap.  
90" Newton Cold Cutting-off Saw.  
62" Newton Cold Cutting-off Saw.  
36" Newton Cold Cutting-off Saw.  
20" Newton Cold Cutting-off Saw.  
No. 4B W. & W. Bulldozer.  
72" Colburn Vertical Boring Mill.  
30" Bullard Boring Mill.  
10", 16" to 20" Slotters.

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# Specials for This Month

## Guaranteed Machinery

16" Kelly Shaper.

1/2" Pratt & Whitney Screw Machine.

20" Reed Lathe.

No. 17 Crescent Buffing Lathe.

16" South Bend Lathe.

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- 40"x16' Niles-Bement-Pond, triple geared, quick change, with motor.
- 46"x18' New Haven Lathe, triple geared, blocks to 62".
- 42"x20' Niles, triple geared.
- 48"x28' Niles, triple geared.
- 24" Gisholt Turret Lathe, fine shape, \$350.
- 28" Gisholt, fine condition, \$400.
- 54" Niles Horizontal Boring Mill, 4" bar.

## LATHES

- 14"x 8' Carroll-Jamieson, q. c.
  - 16"x 6' Hendey, q. c., overarm brace.
  - 16"x10' American, q. c.
  - 18"x 8' Morris, q. c.
  - 20"x10' Hamilton, q. c.
  - 21"x14' LeBlond q. c.
- Many other loose and quick change gear Lathes up to 66" swing.

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  - 4' Universal Radial.
  - 2' Gang Radial.
- Etc., Etc.

## MISCELLANEOUS

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- Quickwork Shear, 30" throat.
- 54" SQUARING SHEAR, POWER.
- 8' Long & Allatatter Power Squaring Shear.
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- 1—Brown & Sharpe No. 13.
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Upsetter, 1½" Acme, steel bed.  
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 48x48x14 Woodward Powell Planer.  
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 42"x20"x20' Fixed Rail Ingersoll Slab Miller.  
 Cleveland Automatic Screw Machine 2", Class B, latest type, H. S. Drilling Attachment, serial 29694, 95%.  
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Racine No. 7A hack saw,  
practically new ..... \$ 350.

### MISCELLANEOUS—CONTINUED

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Grinder, Norton plain 10"x52", standard equipment.  
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Lathe, 24"x10' Boye & Emmes, compound rest.  
Lathe, 20"x10' Hendey, compound rest.  
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Lathe, 36"x20' New Haven, compound rest, 5-step cone, cheap.  
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Lathe, 28" swing Gisholt Turret.  
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Lathe, 18"x10' Boye & Emmes, 3-step cone, d. b. g., 90%.  
Milling Machine, No. 3 Universal Cincinnati.  
Pit Lathe, 84" swing, very cheap.  
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Radial Drill, 4' American, gear box drive, with tapping attachment.  
Radial Drill, 4' Fostick & Holloway, cone drive, tapping attachment.  
Radial Drill, 3' Hammond, gear box drive, tapping attachment.  
Shaper, 24" Queen City, very good condition.  
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Allen 2-spindle ball bearing Drill.....	250.
Demco 3-spindle ball bearing Drill.....	400.
Allen 4-spindle ball bearing Drill.....	475.
Hollingsworth 18" Shaper, brand new.....	750.
Gould & Eberhardt 14" Shaper.....	450.
Milwaukee 16"x6' Lathe.....	250.
Walcott 16"x8' Lathe, q. c. g.....	525.
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## NEW 3 PHASE MOTORS CHEAP. 3 H. P. \$57.50; 5 H. P. \$67.50

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12"x 5' Cleveland, geared head.  
14"x 6' Carroll-Jamieson, new.  
14"x 8' Young.  
14"x 6' Hamilton, grd. hd., motor dr.  
14"x 6' Monarch, quick change.  
14"x 8' Sidney, double back geared.  
16"x 8' Sidney, double back geared.  
18"x 10' American, quick change.

18"x 8' Bradford, h. s., steady rest.  
20"x 10' Prentice, taper.  
20"x 10' Hamilton, rapid production.  
24"x 24' Prentice, with raising block.  
25"x 12' Sidney heavy duty.  
28"x 8' Bridgeford, heavy duty.  
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### TURRET LATHES and SCREW MACHINES

No. 4 Defiance hand screw machine.  
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1 1/2" Mulholland.  
2x24 and 3x36 J. & L.

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Warner & Swasey No. 2.  
Nos. 50 & 56 National Acme auto.  
6" Gridley single spindle, automatic.

### SHAPERS

14" Niles, traveling head.  
14" Steptoe, crank.  
16" American, tool room.

16" & 24" Barker, b. g. crank.  
16" O. & S. b. g. crank, new.

### PLANERS

22"x 22"x 5' Cincinnati.  
24"x 24"x 6' Gray.  
26"x 26"x 10' Putnam, 2 heads.

26"x 26"x 10' Gray, 1 head.  
36"x 36"x 18' Pond.

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Nos. 3-A & 6-A Willard inclinable.  
No. 1 Toledo inclinable.  
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Emco, bench, for radio parts.  
No. 35 Niagara straight side.  
Perkins, dbl. housing, wt. 4,000 lbs.

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3 1/2" Silver, sgl. pulley, gear box dr.  
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4" Universal Radial Drill Co. plain.  
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22", 24", 26", 28" and 32", sliding hd.  
20"-24" & 26" Barnes, all geared.  
4-spindle Reed sensitive.  
Electric drills, Thor, all sizes.

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No. 1 Kempsmith universal.  
No. 2 Kempsmith universal.  
U. S. and Whitney hand.  
No. 25 Becker plain, power feed.  
No. 3 Kempsmith univ. and plain.

No. 3 LeBlond, with vertical attach.  
No. 2 H Brown & Sharpe plain.  
Briggs type "A" high duty, 24x8 table.  
No. 7 Becker Lincoln type.  
Oesterlein 24x7 1/2x18 plain.

### GRINDERS

Nos. 1 & 75 W. & M. surface.  
No. 2 W. & P. 10x30 universal.  
6"x 15" Fitchburg plain.  
12x36 Cincinnati universal.  
12x42" & 16"x 30" Landis plain.  
12"x 72" Brown & Sharpe plain.  
36" and 66" Yates plate.

Perfection cylinder.  
No. 60 Heald cylinder.  
Schmitt cylinder grinder.  
No. 3 Ohio universal & tool.  
No. 4 Gardner 20" double disc.  
No. 20 Bryant, chucking.  
Capital internal, new, 2"x 2".

### MISCELLANEOUS

Band saw, metal, Klemm.  
Band saws, Napier 4"x 4", 10"x 10".  
Bending rolls, 7" for 3" plate.  
Boring mill, Colburn No. 3, tur. hd.  
Boring mill, 54" & 60" Colburn, 2 hds.  
Brake, 10", 18-gauge metal.  
Broaching machine, No. 3 LaPointe.  
Cold saw, Burr, 3" capacity.  
Compressors, 5x4, 8x8 and 12x10.  
Drawing tables, adjust., 42"x 6" top.  
Gear cutter, 26" No. 3 B. & S.  
Gear millers, Bilton No. 1, (5).  
Hammer, 40 lb. Bradley, helve.  
Hammer, 150 lb. Standard drop.

Oil separator, Springfield.  
Pipe machines, 2", 4", 6" & 12".  
Pumps, Gould triplex, 6"x 8" & 7"x 8".  
Punch & shear 1/2 by 1/4, 10" throat.  
Riveting hammers, No. 3-A h. sp. (2).  
Scale, 1500 lb. Toledo, dial type.  
Scleroscope, Shore.  
Shear, 5' Robinson, for 10 gauge.  
Shear, No. 20 Quickwork, 30" throat.  
Shear, circular, Pettengell 60".  
Slotter, 18" Hement-Miles.  
Tapping mche., 1/2" Rickert-Shafer.  
Tapping machine, Acme 6-spindle.  
Threading mche., W. & P. 2-spindle.

**OSBORNE & SEXTON**  
MACHINERY COMPANY  
COLUMBUS DEPT. H. OHIO

## ENGINE LATHES

- 36"x22" Putnam, tri. g., semi q. c. g.  
 36"x14" Putnam, tri. g., semi q. c. g.  
 30"x17" Houston Stanwood & G., q. c.  
 30"x12" LeBlond heavy duty, q. c.  
 24"x14" LeBlond, standard, change, raiser blocks to swing 30".  
 24"x10" R. K. LeBlond, qck. chg.  
 22"x10" Hamilton, semi q. c. g.  
 22"x12" Reed, standard change gear.  
 20"x10" Bradford, standard ch. gear.  
 20"x10" L. & S., patent grd. hd., q. c.  
 20"x 8" Hendey, qck. ch., grd. head.  
 20"x 8" Hamilton, semi-quick change gear, with taper.  
 18"x10" Greaves & Klusman, q. c. g.  
 18"x10" Schumacher, Boye & Emmes, standard change.  
 18"x 8" Lodge & Shipley, q. c. g.  
 18"x 8" Whitcomb-B. semi q. c. g.  
 18x36"x8" Fay & Scott, standard ch., sliding bed gap lathe.  
 16"x 8" Davis, standard chg. gear.  
 16"x 8" Hamilton, qck. chg. gear.  
 16"x 8" Hendey, q. c. g., with taper.  
 16"x 8" Hendey, q. c. g., grd. hd.  
 16"x 8" Davis, standard chg. gear.  
 16"x 8" Prentice, q. c., all-grd. hd.  
 16"x 8" F. E. Reed, standard ch. g.  
 15"x 6" American, q. c. g.  
 15"x 8" LeBlond, q. c. g., all-grd. hd.  
 16"x 6" Cincinnati, qck. chg. gear.  
 14"x 8" Hamilton tool room, q. c., taper, relieving and draw in att.  
 14"x 6" Bradford, qck. change gear.  
 14"x 6" Monarch, qck. change gear.  
 14"x 6" Lodge & Shipley, q. c. g.  
 14"x 6" Seneca Falls, semi q. c. g.  
 14"x 6" Hendey, quick change gear, with taper and relieving attach.  
 12"x 6" Davis, quick change gear.

## TURRET AND MANUFACTURING LATHES

- 34"x36" Cincinnati Acme Flat Head Turret Lathe, geared head.  
 3x36" Jones Lamson Flat Head turret lathe, geared head.  
 24" Gisholt Turret Lathe, taper att.  
 No. 4 W. & S. turret screw machine.  
 No. 4 Milholland Turret Scr. Mch.  
 No. 4 H. & S. Turret Screw Mch.  
 No. 2 Foster Turret Screw Machine.  
 No. 2 S. P. Garvin Turret Screw Machine, New.  
 No. 1 S. P. Garvin Turret Screw Machine, New.  
 13" Gisholt Tur. Lathe, taper attach.  
 16"x8" LeBlond rapid production.

## MANUFACTURING DRILLS

- Minster heavy duty upright drill.  
 No. 11 Nacco multiple drill.  
 Pratt & Whitney multiple drill.  
 No. 3 W. F. & J. Barnes horizontal drill and boring machine.

## PLAIN MILLING MACHINES

- No. 3-B heavy B. & S. pl. sgl. pulley.  
 No. 3 Brown & S. pl. single pulley.  
 No. 3 Cinti. hi-pwr. pl. sgl. pulley.  
 No. 3 R. K. LeBlond pl. cone pulley.  
 No. 3 Kempsmith pl. cone pulley.  
 No. 2-B B. & S., pl. single pulley.  
 No. 2 R. K. LeBlond pl. cone pulley.  
 No. 2 Cincinnati plain cone pulley.  
 No. 1-B Kearney & Trecker (MILWAUKEE) plain single pulley.  
 No. 1 Cincinnati plain cone pulley.  
 No. 0 Cincinnati plain cone pulley.  
 No. 21 Garvin back geared, new.  
 No. 3 Garvin hand miller grd. hd. new  
 Becker large hand miller.

## VERTICAL MILLING MACHINES AND MANUFACTURING

- No. 5C Becker vertical, cone pulley.  
 No. 22 Garvin vertical, cone pulley.  
 28" Cinti. semi-auto. duplex, belt dr.  
 Gooley & Edlund (BRIGGS TYPE) Mfg. Miller, belt drive.

## SHAPERS AND PLANERS

- 16" Hamilton bk. grd. crank shaper.  
 16" Kelley plain crank shaper.  
 20" Milwaukee bk. grd. crank shaper.  
 24" W. Barker b. g. cr. shaper, new.  
 28x28"x8" G. A. Gray planer, 2 hds  
 30x30"x8" G. A. Gray planer, 1 head.  
 36x36"x14" American Tool Works planer, 2 heads.

## RADIAL AND UPRIGHT DRILLS

- 4" Niles Tool Works, Full Universal Radial.  
 34" Fosdick, Plain Radial.  
 3" Bickford, Plain Radial.  
 28" Aurora, Upright Drill.  
 26" Rockford, Upright Drill.  
 24" Cinti-Bickford, Upright Drill, gear box drive and tapping.  
 24" Prentice Bros., upright drill, gear box drive.  
 24" Kokomo, Upright Drill with tapping.  
 23" Rockford, Upright Drill, with tapping.  
 22" W. F. & J. Barnes, Upr. Drill.  
 20" W. F. & J. Barnes Drill with tapping.  
 15" W. F. & J. Barnes Drill.  
 10" W. F. & J. Barnes, Fric. Drill  
 2-Sp. Leland & Gifford, High Speed Ball Bearing Drill, Power Feed  
 2-spindle Henry & Wright, High Spd. Ball Bearing Drill, Pwr. Fd.  
 Sipp. High Speed Ball Bearing, qk. change drill.  
 Avey. High Spd. Ball Bearing Drill.  
**UNIVERSAL MILLING MACHINES**  
 No. 3-A B. & S. Universal Single Pulley Complete.  
 No. 4 R. K. LeBlond, cone, complete.

# EASTERN MACHINERY CO.

No. 408 East Pearl St.,

Cincinnati, Ohio

# Classified Finding Index

- Air Guns**  
Powell Co., Wm., Cincinnati
- Arbors, Solid**  
Nicholson & Co., W. H., Wilkes-Barre, Pa.
- Auto-Gages For Dies**  
Dandy Machine Specialties, Inc., 4913 Lincoln Ave., Chicago
- Automatics**  
New Britain Machine Co., New Britain, Conn.
- Balancing Ways**  
Anderson Bros. Mfg. Co., Rockford, Ill.  
Bowsher Co., N. P., South Bend, Ind.
- Balls, Bearing and Burnishing**  
Abbott Ball Co., Hartford, Conn.
- Band Saw Machines, for Metal**  
Armstrong-Blum Mfg. Co., 341 N. Francisco Ave., Chicago  
Porter-Cable Machine Co., Syracuse, N. Y.
- Barrels, Tumbling**  
Abbott Ball Co., Hartford, Conn.  
Scully-Jones & Co., 2012 W. 13th, Chicago
- Bench Legs, Steel**  
New Britain Mch. Co., New Britain, Conn.
- Bending Machines, Hand and Power**  
Armstrong-Blum Mfg. Co., 341 N. Francisco Ave., Chicago  
Hendley & Whittemore Co., Beloit, Wis.  
Lewthwaite Mchs. Co., T. H. 417 E. 31st., N. Y.  
Lourie Mfg. Co., Springfield, Ill.  
Pedrick Tool & Machine Co., Philadelphia
- Bolt and Nut Machinery**  
Economy Engineering Co., Willoughby, O.  
Foote-Hurt Co., Cleveland, O.
- Boring Bars**  
Pedrick Tool & Machine Co., Philadelphia
- Boring Bars, Cylinder**  
Pedrick Tool & Machine Co., Philadelphia
- Boring, Drilling & Milling Machines**  
Landis Tool Co., Waynesboro, Pa.
- Boring Machines, Horizontal**  
Avey Drilling Machine Co., Cincinnati  
Morris Machine Tool Co., Cincinnati, O.  
Pedrick Tool & Machine Co., Philadelphia  
Rockford Drilling Machine Co., Rockford, Ill.
- Burnishing Equipment, Ball**  
Abbott Ball Co., Elmwood, Conn.
- Bushings, Drill Jig**  
Ex. Cell-O Tool & Mfg. Co., Detroit, Mich.
- Chains, Power Transmission**  
Whitney Mfg. Co., Hartford, Conn.
- Chucking Machines**  
New Britain Mch. Co., New Britain, Conn.
- Chucks, Collet**  
Ames Co., B. C., Waltham, Mass.  
Hardinge Brothers, Inc., 1770 Bertraw Ave., Chicago
- Chucks, Drill**  
Eastern Tube & Tool Co., Inc., 580 Johnson Ave., Brooklyn, N. Y.  
Jacobs Mfg. Co., Hartford, Conn.  
Scully-Jones & Co., 2012 W. 13th, Chicago
- Chucks, Drill and Tap**  
Titan Tool Co., Erie, Pa.  
Westcott Chuck Co., Oneida, N. Y.
- Chucks, Keyway Cutting**  
Scully-Jones & Co., Ry. Exch. Bldg., Chicago
- Chucks, Lathe**  
Westcott Chuck Co., Oneida, N. Y.
- Chucks, Wrenchless**  
Thomas Elevator Co., 31 S. Hoyne Ave., Chicago
- Clamps, Die**  
Dandy Machine Specialties, Inc., 4913 Lincoln Ave., Chicago
- Clutches, Friction**  
Edgemont Machine Co., Dayton, O.
- Cold Saws**  
Burke Machine Tool Co., Conneaut, Ohio  
Peter Bros. Mfg. Co., Algonquin, Ill.
- Collets**  
Ames Co., B. C., Waltham, Mass.  
Hardinge Brothers, Inc., 1770 Bertraw Ave., Chicago
- Contract Work Wanted**  
Burke Machine Tool Co., Conneaut, O.
- Counterbores and Spot Facers**  
Glenzer Co., J. C., Detroit, Mich.
- Cranes, Portable**  
Canton Foundry & Mch. Co., Canton, Ohio
- Crank Pin Turning Machine**  
Pedrick Tool & Machine Co., Philadelphia
- Cutters, Keyseating**  
Davis Keyseater Co., Rochester, N. Y.  
Scully-Jones & Co., 2012 W. 13th, Chicago  
Whitney Mfg. Co., Hartford, Conn.
- Cutters, Milling**  
Genesee Mfg. Co., Rochester, N. Y.  
Whitney Mfg. Co., Hartford, Conn.
- Cutting-Off Machines**  
Peter Bros. Mfg. Co., Algonquin, Ill.
- Cylinder Boring Machines, Portable**  
Pedrick Tool & Machine Co., Philadelphia
- Dial Indicators**  
Federal Products Corp'n, Providence, R. I.  
Wallace Brothers, 160 N. Wells St., Chicago
- Die Sets**  
Dandy Machine Specialties, Inc., 4913 Lincoln Ave., Chicago
- Dies, Pipe Threading**  
Bignall & Keeler Mch. Wks., Edwardsville, Ill.
- Drill Racks**  
Peerless Machine Co., Racine, Wis.
- Drilling Machine Heads, Multiple**  
National Automatic Tool Co., Richmond, Ind.  
United States Drill Head Co., Cincinnati
- Drilling Machines, Automatic Sensitive**  
Kingsbury Mfg. Co., Keene, N. H.

# Classified Finding Index

## Drilling Machines, Bench

Ames Co., B. C., Waltham, Mass.  
Avey Drilling Machine Co., Cincinnati  
Burke Machine Tool Co., Conneaut, Ohio  
Kingsbury Mfg. Co., Keene, N. H.  
Rockford Drilling Machine Co., Rockford, Ill.  
Sigourney Tool Co., Hartford, Conn.  
Taylor & Fenn Co., Hartford, Conn.

## Drilling Machines, Horizontal

Kingsbury Mfg. Co., Keene, N. H.  
Morris Machine Tool Co., Cincinnati, O.  
Rockford Drilling Machine Co., Rockford, Ill.

## Drilling Machines, Multiple Spindle

Avey Drilling Machine Co., Cincinnati  
Foote-Burt Co., Cleveland, O.  
Kingsbury Mfg. Co., Keene, N. H.  
National Automatic Tool Co., Richmond, Ind.  
Rockford Drilling Machine Co., Rockford, Ill.  
Sigourney Tool Co., Hartford, Conn.  
Taylor & Fenn Co., Hartford, Conn.

## Drilling Machines, Portable Electric

Independent Pneumatic Tool Co., 609 W.  
Jackson Blvd., Chicago  
Stow Flexible Shaft Co., Philadelphia, Pa.  
Strand Co., N. A., 5001 N. Lincoln St., Chgo  
Wisconsin Electric Co., Racine, Wis.

## Drilling Machines, Post

Mueller Machine Tool Co., Cincinnati

## Drilling Machines, Radial

Morris Machine Tool Co., Cincinnati, O.  
Mueller Machine Tool Co., Cincinnati  
Taylor & Fenn Co., Hartford, Conn.

## Drilling Machines, Sensitive

Avey Drilling Machine Co., Cincinnati  
Burke Machine Tool Co., Conneaut, Ohio  
Foote-Burt Co., Cleveland, O.  
Kingsbury Mfg. Co., Keene, N. H.  
Leland-Gifford Co., Worcester, Mass.  
Sigourney Tool Co., Hartford, Conn.  
Taylor & Fenn Co., Hartford, Conn.  
U. S. Machine Tool Co., Cincinnati, O.  
Wisconsin Electric Co., Racine, Wis.

## Drilling Machines, Vertical

Avey Drilling Machine Co., Cincinnati  
Foote-Burt Co., Cleveland, O.  
Kingsbury Mfg. Co., Keene, N. H.  
Leland-Gifford Co., Worcester, Mass.  
Rockford Drilling Machine Co., Rockford, Ill.  
Sigourney Tool Co., Hartford, Conn.  
Taylor & Fenn Co., Hartford, Conn.

## Drills, Twist

Cleveland Twist Drill Co., Cleveland, O.

## Dust Handling Equipment

Klickerbocker Co., Jackson, Mich.

## Emery Wheel Dressers and Cutters

Precision Truing Machine & Tool Co., Cincinnati, O.  
Taylor & Fenn Co., Hartford, Conn.

## Feeders, Oil and Soda Water

New Britain Machine Co., New Britain, Conn.

## Filing Machines, Die

Ames Co., B. C., Waltham, Mass.

## Filing Room Equipment

Wardwell Mfg. Co., Cleveland, O.

## Flexible Shafts

Strand Co., N. A., 5001 N. Lincoln St., Chgo

## Forgings, Hollow Bored

American Hollow Boring Co., Erie, Pa.

## Forgings, Upset

American Forge Co., 2631 S. Hoyne Avenue,  
Chicago

## Furniture, Machine Shop

New Britain Machine Co., New Britain, Conn.

## Gauges, Dial

Ames Co., B. C., Waltham, Mass.

## Gauges, Piston and Piston Ring

Federal Products Corp'n, Providence, R. I.

## Gauges, Thread

Federal Products Corp'n, Providence, R. I.

## Grinding Machines, Belt

Gallmeyer & Livingston Co., Grand Rapids,  
Mich.  
Poerlean Surfacing Machine Co., Troy, N. Y.

## Grinding Machines, Bench

Bodine Electric Co., 2256 W. Ohio St., Chgo.  
Gallmeyer & Livingston Co., Grand Rapids,  
Mich.

## Grinding Machines, Cutter, Reamer and Tool

Gallmeyer & Livingston Co., Grand Rapids,  
Mich.  
Jarecki Mch. & T. Co., Grand Rapids, Mich.  
Landis Tool Co., Waynesboro, Pa.  
LeBlond Mch. Tool Co., R. K., Cincinnati, O.  
Thompson Grinder Co., Springfield, Ohio  
Wilmarth & Morman Co., Grand Rapids, Mich.

## Grinding Machines, Cylindrical

Jarecki Mch. & T. Co., Grand Rapids, Mich.  
Landis Tool Co., Waynesboro, Pa.  
Thompson Grinder Co., Springfield, Ohio

## Grinding Machines, Die

Gallmeyer & Livingston Co., Grand Rapids,  
Mich.  
Jarecki Mch. & T. Co., Grand Rapids, Mich.  
Thompson Grinder Co., Springfield, Ohio  
Wilmarth & Morman Co., Grand Rapids, Mich.

## Grinding Machines, Disc

Gallmeyer & Livingston Co., Grand Rapids,  
Mich.  
Porter Cable Machine Co., Syracuse, N. Y.

## Grinding Machines, Drill

Gallmeyer & Livingston Co., Grand Rapids,  
Mich.  
La Salle Tool Co., La Salle, Ill.  
Wilmarth & Morman Co., Grand Rapids, Mich.

## Grinding Machines, Face

Taylor & Fenn Co., Hartford, Conn.

## Grinding Machines, Internal

Landis Tool Co., Waynesboro, Pa.  
Taylor & Fenn Co., Hartford, Conn.  
Thompson Grinder Co., Springfield, Ohio  
Wilmarth & Morman Co., Grand Rapids, Mich.

## Grinding Machines, Portable Electric

Bodine Electric Co., 2256 W. Ohio St., Chgo.  
Independent Pneumatic Tool Co., 609 W.  
Jackson Blvd., Chicago  
Porter-Cable Machine Co., Syracuse, N. Y.  
Service Tool, Die & Mfg. Co., 2256 Walnut  
Street, Chicago.  
Stow Flexible Shaft Co., Philadelphia, Pa.  
Strand Co., N. A., 5001 N. Lincoln St., Chgo  
Wisconsin Electric Co., Racine, Wis.

## Grinding Machines, Snagging

Gallmeyer & Livingston Co., Grand Rapids,  
Mich.  
Jarecki Mch. & T. Co., Grand Rapids, Mich.

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# Jig Bushings



*This is one of five standard types, designed to fill every drill jig bushing requirement.*

**Now You Can  
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Twist Drills  
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**TOOL & MANUFACTURING CO.**

High Speed Internal  
Grinding Spindles



Drill  
Jig Bushings

**1469 East Grand Boulevard, Detroit**

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## Classified Finding Index

### Grinding Machines, Surface

Gallmeyer & Livingston Co., Grand Rapids, Mich.

La Salle Tool Co., La Salle, Ill.

Thompson Grinder Co., Springfield, Ohio

Wilmarth & Morgan Co., Grand Rapids, Mich.

### Grinding Machines, Tap

Gallmeyer & Livingston Co., Grand Rapids, Mich.

### Grinding Machines, Tool

Taylor & Fenn Co., Hartford, Conn.

### Grinding Machines, Universal

Gallmeyer & Livingston Co., Grand Rapids, Mich.

Lan-His Tool Co., Waynesboro, Pa.

Thompson Grinder Co., Springfield, Ohio

Wilmarth & Morgan Co., Grand Rapids, Mich.

### Hack Saw Blades

Peerless Machine Co., Racine, Wis.

### Hack Saw Machines

Armstrong-Blum Mfg. Co., 341 N. Francisco Av., Chicago

Peerless Machine Co., Racine, Wis.

Racine Tool & Machine Co., Racine, Wis.

### Hammers, Air

Independent Pneumatic Tool Co., 600 W. Jackson Blvd., Chicago

### Hammers, Riveting

Independent Pneumatic Tool Co., 600 W. Jackson Blvd., Chicago

### Hardness Testers

Wilson-Maculen Co., St. Marys St. & Concord Ave., New York

### Hoists

Ford Chain Block Co., Philadelphia, Pa.

Thomas Elevator Co., 31 S. Horne Ave., Chicago

### Hoists, Portable

Canton Foundry & Machine Co., Canton, Ohio

### Keyseating Machines

Burr & Son, John T., Brooklyn, N. Y.

Chattanooga Mch. Co., Chattanooga, Tenn.

Davis Keyseater Co., Rochester, N. Y.

National Machine Tool Co., Cincinnati

Whitney Mfg. Co., Hartford, Conn.

### Lathe Accessories and Attachments

Sidney Machine Tool Co., Sidney, O.

### Lathes, Bench

Ames Co., R. C., Waltham, Mass.

Hardinge Brothers, Inc., 1770 Barseau Ave., Chicago

Monarch Machine Tool Co., Sidney, O.

### Lathes, Engine

Boye & Emmen Mch. Tool Co., Cincinnati, O.

Carroll Mch. Tool Co., A. V., Cincinnati, O.

Carroll & Jamieson Machine Tool Company, Batavia, Ohio

Hardinge Brothers, Inc., 1770 Barseau Ave., Chicago

LeBlond Mch. Tool Co., R. K., Cincinnati, O.

Monarch Machine Tool Co., Sidney, O.

Morris Machine Tool Co., Cincinnati, O.

Mueler Machine Tool Co., Cincinnati, O.

Porter-Cable Machine Co., Syracuse, N. Y.

Sebastian Lathe Co., Cincinnati, O.

Sidney Machine Tool Co., Sidney, O.

### Lathes, Fox Monitor

Barker Co., Wm., Covington, Ky.

### Lathes, Gap

Carroll Mch. Tool Co., A. V., Cincinnati, O.

### Lathes, Short Bed

Monarch Machine Tool Co., Sidney, O.

Porter-Cable Machine Co., Syracuse, N. Y.

Sidney Machine Tool Co., Sidney, O.

### Lathes, Turret

Monarch Machine Tool Co., Sidney, O.

### Mandrels, Expanding

Nicholson & Co., W. H., Wilkes-Barre, Pa.

### Mandrels, Solid

Nicholson & Co., W. H., Wilkes-Barre, Pa.

### Milling Attachments

Burke Machine Tool Co., Conneaut, Ohio

LeBlond Mch. Tool Co., R. K., Cincinnati, O.

Porter-Cable Machine Co., Syracuse, N. Y.

Taylor & Fenn Co., Hartford, Conn.

### Milling Machines, Bench

Ames Co., R. C., Waltham, Mass.

Burke Machine Tool Co., Conneaut, Ohio

### Milling Machines, Hand

Burke Machine Tool Co., Conneaut, Ohio

U. S. Machine Tool Co., Cincinnati, O.

Whitney Mfg. Co., Hartford, Conn.

### Milling Machines, Horizontal

Kearney & Trecker Corporation, Milwaukee, Wisconsin

### Milling Machines, Plain

Burke Machine Tool Co., Conneaut, Ohio

Gallmeyer & Livingston Co., Grand Rapids, Mich.

Kearney & Trecker Corporation, Milwaukee, Wisconsin

LeBlond Mch. Tool Co., R. K., Cincinnati, O.

### Milling Machines, Portable

Pedrick Tool & Machine Co., Philadelphia

### Milling Machines, Spline

Taylor & Fenn Co., Hartford, Conn.

### Milling Machines, Universal

Kearney & Trecker Corporation, Milwaukee, Wisconsin

LeBlond Mch. Tool Co., R. K., Cincinnati, O.

### Milling Machines, Vertical

Burke Machine Tool Co., Conneaut, Ohio

Kearney & Trecker Corporation, Milwaukee, Wisconsin

LeBlond Mch. Tool Co., R. K., Cincinnati, O.

Taylor & Fenn Co., Hartford, Conn.

### Mills, Adjustable Hollow

Genesee Mfg. Co., Rochester, N. Y.

### Motors, Electric

Reliance Electric & Eng. Co., Cleveland

Wisconsin Electric Co., Racine, Wis.

### Oil Cups

Gits Bros. Mfg. Co., 1940 S. Kilbourn Av., Chicago

Tucker, W. C. & F. C., Hartford, Conn.

### Oil Extractors

Barrett Co., Leon J., Worcester, Mass.

Tolhurst Machine Works, Troy, N. Y.

### Oil Hole Covers

Tucker, W. C. & F. C., Hartford, Conn.

### Pattern Shop Machinery

Townley Mfg. Co., John T., Cincinnati



## Classified Finding Index

### Pins, Leader And Dowel

Daily Machine Specialties, Inc., 4913 Lincoln Ave., Chicago

### Pipe Bending Machines

Pedrick Tool & Machine Co., Philadelphia

### Pipe Cutting and Threading Machines

Signal & Keeler Mch. Wks., Edwardsville, Ill.

### Planers, Openside

Cleveland Planer Co., Cleveland, O.

### Planers, Valve Seat, Portable

Pedrick Tool & Machine Co., Philadelphia

### Polishing and Buffing Machines

Independent Pneumatic Tool Co., 600 W. Jackson Blvd., Chicago  
New Britain Machine Co., New Britain, Conn.  
Wilmarth & Morman Co., Grand Rapids,  
Wisconsin Electric Co., Racine, Wis. [Mich.

### Presses, Arbor

Atlas Press Co., Kalamazoo, Mich.  
Lourie Mfg. Co., Springfield, Ill.  
Nicholson & Co., W. H., Wilkes-Barre, Pa.  
Sheldon Machine Co., 5251 Cottage Grove Ave., Chicago

### Presses, Broaching

Lourie Mfg. Co., Springfield, Ill.

### Presses, Foot

Rockford Iron Works, Rockford, Ill.  
Taylor & Fenn Co., Hartford, Conn.

### Presses, Power

Hendley & Whittemore Co., Beloit, Wis.  
Lourie Mfg. Co., Springfield, Ill.  
Rockford Iron Works, Rockford, Ill.

### Presses, Punch

LaSalle Machine Works, 3013 S. LaSalle St., Chicago  
Leathwaite Mch. Co., T. H., 417 E. 31st., N. Y.  
Lourie Mfg. Co., Springfield, Ill.  
Rockford Iron Works, Rockford, Ill.

### Presses, Screw

Jarecki Mch. & T. Co., Grand Rapids, Mich.  
Lourie Mfg. Co., Springfield, Ill.  
Towsley Mfg. Co., John T., Cincinnati

### Pulley Machinery

Avery Drilling Machine Co., Cincinnati

### Punch Press Feeds

Rockford Iron Works, Rockford, Ill.

### Punch, Shear and Bender, Hand

Armstrong Blum Mfg. Co., 341 N. Francisco Ave., Chicago

### Punches, Hand

Armstrong-Blum Mfg. Co., 341 N. Francisco Ave., Chicago  
Hendley & Whittemore Co., Beloit, Wis.  
Leathwaite Mch. Co., T. H., 417 E. 31st St., New York  
Whitney Metal Tool Co., Rockford, Ill.

### Punches, Power

Hendley & Whittemore Co., Beloit, Wis.

### Punches and Dies

Hendley & Whittemore Co., Beloit, Wis.  
Leathwaite Mch. Co., T. H., 417 E. 31st., N. Y.  
Rockford Iron Works, Rockford, Ill.

### Pyrometers

Wilson-Macaulen Co., St. Marys St. & Concord Ave., New York

### Racks, Bar Stock

New Britain Machine Co., New Britain, Conn.

### Reamers

Cleveland Twist Drill Co., Cleveland, O.

### Reamer Holders

Nicholson & Co., W. H., Wilkes-Barre, Pa.

### Reels, Extension

Cincinnati Specialty Mfg. Co., Cincinnati, O.

### Riveting Machines

Grant Mfg. & Mch. Co., Bridgeport, Conn.

### Red Cutters

Armstrong-Blum Mfg. Co., 341 N. Francisco Ave., Chicago  
Bench Machine Tool Co., Philadelphia, Pa.  
Hendley & Whittemore Co., Beloit, Wis.  
Leathwaite Mch. Co., T. H., 417 E. 31st., N. Y.  
Tucker, W. C. & F. C., Hartford, Conn.

### Saw Sharpening Machines

Wardwell Mfg. Co., Cleveland, O.

### Scraping Machines, Hand & Pneumatic

Anderson Brothers Mfg. Co., Rockford, Ill.

### Screw Driving Machines, Automatic

Reynolds Machine Co., Massillon, Ohio

### Screw Machines, Automatic

New Britain Mch. Co., New Britain, Conn.

### Second-Hand Machinery

Acme Machine Tool Co., Cincinnati, O.  
Adams Co., Ogden & Co., Rochester, N. Y.  
American Foundry & Construction Co., Pittsburgh, Pa.  
American Tool Works Co., Cincinnati, O.  
Aultman & Taylor Mch. Co., Mansfield, O.  
Baker, J. C., Columbus, O.  
Bath & Co., Cyril J., Cleveland, O.  
Bennett Mch. Co., 50 Church St., New York  
Botwinik Brothers, New Haven, Conn.  
Brown Machinery Co., St. Louis, Mo.  
Brownell Machinery Co., Providence, R. I.  
Cincinnati Automatic Mch. Co., Cincinnati  
Clark Machinery Co., Cleveland, O.  
Co-Operative Machinery Co., Cleveland, O.  
Donahue Steel Products Co., 204 N. Jefferson St., Chicago  
Eastern Machinery Co., Cincinnati, O.  
Eastern Machinery & Equipment Co., Philadelphia, Pa.  
Emerman & Co., Louis E., 1781 Elston Ave., Chicago  
Empire Machinery Exchange Company, Inc., Cleveland, Ohio  
Easley Machinery Co., E. L., 555 Washington Blvd., Chicago  
Fitzsimmons-Cole Mch. Co., Pittsburgh, Pa.  
Haetten & Co., J. E., Inc., 50 Church St., New York  
Harris Bros. Co., 35th & Iron, Chicago  
Hill, Clarke & Co., 649 W. Washington Blvd., Chicago  
Hyman & Sons, Joseph, Philadelphia  
Industrial Plants Corporation, 25 Church St., New York  
Johnson & Sons Machinery Co., Wm. C., St. Louis, Mo.  
Jones Machine Tool Co., Cincinnati  
Kinsey Co., E. A., Cincinnati, O.  
Little Co., W. F., Cleveland  
Lucas & Son, J. L., Inc., Bridgeport, Conn.  
McCabe Lathe & Machinery Corp., J. J., 149 Broadway, New York  
McCoy-Brandt Mch. Co., Pittsburgh, Pa.  
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McMullen Mch. Co., Grand Rapids, Mich.  
Machine Tools Sales Co., Philadelphia, Pa.

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Morey and Co., Inc., 408 Broome St., N. Y.  
Morris Machine Tool Co., Cincinnati, O.  
Moyer, J. N., Philadelphia, Pa.  
National Mch. Mfg. Co., Inc., St. Louis, Mo.  
Nelson Machinery Co., Green Bay, Wis.  
Niles-Bement-Pond Co., 111 Broadway, N. Y.  
Norton-Broadway Mch. Co., Cincinnati, O.  
O'Brien Machinery Co., Philadelphia, Pa.  
Osborne Mch. Co., D. M., Cleveland, O.  
Osborne & Sexton Machy. Co., Columbus, O.  
Paasman Bros., 705 West Washington Blvd., Chicago  
Patterson Tool & Supply Co., Dayton, O.  
Peninsular Machinery Co., Detroit, Mich.  
Randle Machinery Co., Cincinnati  
Reeve-Fritts Co., 37 S. Desplaines, Chicago  
Reliance Mch. Sales Co., Pittsburgh, Pa.  
Rosenfeld Machinery Co., 942 W. Lake St., Chicago  
Russel Motor Axle Co., N. Detroit, Mich.  
Russell Machine Co., Pittsburgh, Pa.  
Saltman, B. L., 524 W. Van Buren Street, Chicago  
Simmons Machine Tool Corp., Albany, N. Y.  
Smith Machinery Co., H. A. Syracuse, N. Y.  
Standard Equipment Co., Cleveland, O.  
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Tucker, W. C. & F. C., Hartford, Conn.  
Whitney Metal Tool Co., Rockford, Ill.

### Shears, Power

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Detroit Stamping Co., Detroit, Mich.

### Spindles, Grinding

Ex-Cell-O Tool & Mfg. Co., Detroit, Mich.

### Spindles, Air Driven, High Speed

Ex-Cell-O Tool & Mfg. Co., Detroit, Mich.

### Stools and Chairs, Factory

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Leland-Gifford Co., Worcester, Mass.  
Whitney Mfg. Co., Hartford, Conn.  
Whitney Metal Tool Co., Rockford, Ill.

### Threading Tools

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### Tool Holders

Armstrong Bros. Tool Co., 308 N. Francisco Av., Chicago

### Tool Racks

Chicago Wire Chair Co., 619 N. La Salle St., Chicago

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Armstrong Bros. Tool Co., 308 N. Francisco Av., Chicago

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# NEW YANKEE Drill Grinders



Single  
End  
Dry  
Drill  
Grinder  
Motor Driven

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Other Styles,  
Belt or  
Motor Driven

## ***The NEW YANKEE Way—***

- (1) Each lip is ground at the same angle, ground the same length, ground the same clearance, just right in every way.
- (2) Each lip cuts an equal amount.

## ***And the Result—***

- (1) Drills give 40% longer service between grindings.
- (2) Averages 75% saving in the cost of drills.
- (3) Insures maximum rapidity and efficiency of drilling work.
- (4) Holes are accurate as to size.

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## **Wilmarth & Morman Co.**

Manufacturers of Precision Grinding Machinery Since 1900

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We also manufacture Universal and Surface Grinders

Light Duty  
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Weight 11¼ lbs.



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Type G  
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## Now—A Bench Leg for Every Purpose

As an addition to our line of Heavy Duty Steel Bench Legs we have added two new weights as shown above. Their names indicate their use.

Benches built with these legs are light in weight, end sway is eliminated, and wall support is unnecessary.

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Originators"  **New Britain,  
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